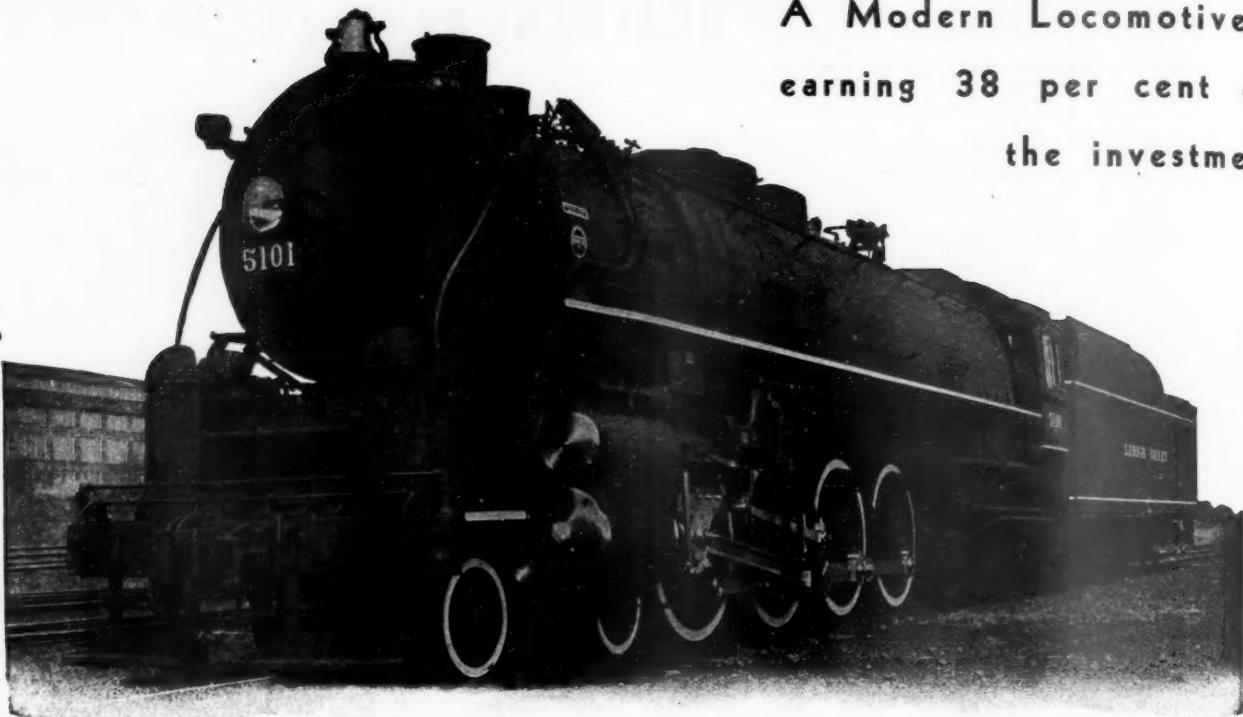


A Modern Locomotive
earning 38 per cent on
the investment



RETURN ON THE INVESTMENT—

should be the deciding factor when considering whether to spend money for new locomotives or use it to repair old ones.

Locomotives twelve or more years old — even when put in perfect physical condition — can never equal the economical performance of locomotives built today.

Modern power — replacing that which is obsolete — will show savings in maintenance and operating costs that will pay for the new locomotives within comparatively few years and leave a margin for increased earnings.

In addition, modern locomotives will improve the competitive position of the railroads.

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS
PHILADELPHIA

What Does Business Think?

Anybody who tries intelligently and thoughtfully to study and discuss the current problems of any important American industry is sure to find that its principal problems are now the same as those of other important industries. The railways still have their peculiar problems but they are not as different from those of other industries as they were before government regulation of all business was begun. Their greatest problems now are to get increases in gross earnings without corresponding increases in their operating expenses, and resulting very large increases in their net earnings. They require very large increases in their net earnings to re-establish their credit. If they are to rehabilitate and improve their properties, and improve their service, they must be able to get a large amount of capital from private investors, and this they cannot get without a great improvement in their credit.

Chairman Jesse Jones, of the Reconstruction Finance Corporation, is telling bankers that either they must give more credit—that is, loan more capital—to private industries, or the government will. This illustrates the confusing way in which the word "credit" is used. Credit is not merely the loans that a bank gives to a business concern or individual. It is also the demonstrable earning and paying ability that the prospective borrower takes to the bank. There is no apparent inability or unwillingness on the part of bankers to make loans to business concerns or individuals that can show prospective ability to meet principal and interest. Most railroads, business concerns and individuals are unable to get credit from the banks because they cannot take credit to the banks.

The Durable Goods Industries

There is only one solution of the problem that this condition presents. This is to increase the profits of railroads and other business concerns and the incomes of individuals that desire to raise and invest capital. The most important and difficult of the immediate problems of recovery is that of reviving business and employment in what are called the "durable" or "capital" goods industries. The very fact that they are called "capital" goods industries indicates the nature of this problem. For the most part capital must be used in buying from them, and a company that has no profits cannot raise the capital required to do the buying.

As the most pressing and important problem of recovery is the revival of business and employment in the durable goods industries, it is necessarily the most

pressing and important problem of all business. The consumers' goods industries are now benefiting by the large government expenditures being made, but these expenditures are small as compared with the volume of business done under normal conditions by the durable goods industries. Therefore, the consumers' goods industries would be benefited much more by a revival of the durable goods industries than by the continuance of government spending on such a large scale. Furthermore, government spending on such a scale as at present could not long be continued without destroying the credit of the federal government, undermining the entire banking and currency system, and forcing resort to the use of the printing presses to provide the government with enough money. The result would be the destruction of the value of all money and a business and financial collapse much worse than that which caused the present depression.

Is There No Business Opinion?

It is a significant and ominous fact that while the principal problems of every kind of business are at present the same, there is no consensus of opinion of business men as to what should be done to solve them, and no organized effort to bring to bear upon the government's economic policies the influence of intelligent business opinion. Intellectuals, politicians and labor leaders with socialistic political views are exerting individual and organized influence upon these policies. Most of those who should speak for business are silent. Most organizations that supposedly exist to represent business are almost, if not entirely, silent. The Chamber of Commerce of the United States was created and established its headquarters in Washington for the purpose, as we understand it, largely of influencing government policies affecting business. Many of the government economic policies now being followed are the antithesis of those favored by large majorities of its members in referendum votes taken prior to a year ago by the Chamber of Commerce of the United States. Nevertheless, this great organization has done and said little, and is still doing and saying little, that indicates whether the many thousands of business men it represents now have any opinions regarding what should be done to solve the problems common to all business, and, if so, what those opinions are.

Is Business Fair to the Administration?

In the circumstances, certain questions may well be asked regarding the business men of the United

States. They have repeatedly expressed opinions regarding government economic policies by the way they have voted in Chamber of Commerce referendums. Have they no convictions, or even opinions, regarding the same matters now? Have they completely changed their views regarding them, or is it possible that they hold the same views they expressed prior to a year ago, but have become fearful of expressing them? It is by no means certain that the administration desires to go further along the road which socialists, many labor leaders and radical politicians desire it to continue to follow. Is it not possible that the administration would welcome organized opposition to radical policies leading toward curtailment of business profits, increased investments of public money in competition with private business, increased regimentation of business, and government ownership of railways, other public utilities and industries of other kinds? Is it fair to the administration, to private business in general, or to the public for business leaders and organizations to make what seems to amount to almost no effort to arrest trends in government economic policies which they have heretofore condemned as inimical to the public welfare?

Car Loadings and Durable Goods Industries

Meanwhile, what do car loadings, which are the best single measure of the total volume of production and commerce, indicate as to conditions in business this year and in previous years? In an accompanying

Percentage of Change in Car Loadings, First Six Weeks of 1934
Compared with—

Class	1933 Per cent	Average, 1930-33 Per Cent	Average, 1925-29 Per Cent
Grain and grain products	+16.5	-14.1	-36.1
Live Stock	-1.4	-26.6	-48.3
Coal	+14.7	-9.2	-33.1
Coke	+48.0	+3.4	-38.2
Forest products	+39.0	-34.5	-70.4
Ore	+59.1	-35.9	-69.1
Merchandise L.C.L.	+0.8	-20.5	-34.5
Miscellaneous	+23.1	-15.1	-39.4
Total	+13.7	-16.5	-39.4

table are given statistics showing in percentages the differences between the loadings of the various classes of commodities in the first six weeks of 1934 and in the corresponding weeks of 1933, 1930-1933 and 1925-1929. The loadings of all classes of commodities excepting live stock have been larger thus far in 1934 than in 1933, but the comparisons with average loadings in the first six weeks of the prosperous years 1925-1929 are the most interesting and significant. Loadings of all classes of commodities excepting forest products, ore and live stock show declines of less than 40 per cent, as compared with 1925-1929, while the declines in the loadings of forest products and ore are about 70 per cent. The relatively great declines in the loadings of forest products and ore are so significant because these commodities are used so largely in construction of various kinds, and activity in the durable goods industries consists predominantly of the various kinds of construction. The fact that, as com-

pared with 1925-1929, the decline in loadings of the principal raw materials entering into construction is still relatively twice as great as the decline in the loadings of other classes of commodities is quite sufficient to emphasize that as yet little progress has been made in reviving the durable goods industries.

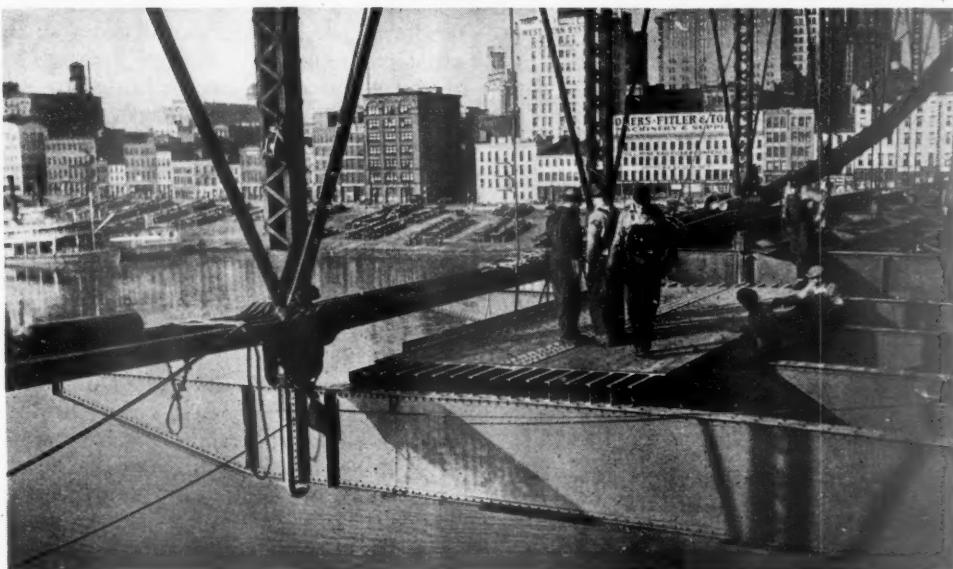
Until government and business can and do effectively cooperate to increase the profits in business which are necessary to make possible a large increase in buying from the durable goods industries there will be no real economic recovery in this country.

Locomotive Smoke Abatement

The rapid growth of industry, commerce and travel in this country has brought with it several irritating nuisances, such, for instance, as noise, smoke, and noxious gases which pollute the air. Indeed, these are sufficient in some communities to affect adversely the health and general welfare of the citizens. Scientific measurements of the dirt suspended in the air in a metropolitan district show surprisingly large quantities. Hudson county (N. J.), directly across the Hudson river from lower New York, contains many thriving industries and is also an important railroad terminal. Three years ago a Department of Smoke Regulation was established in that county, with excellent results, not only to that section of New Jersey but to New York City as well.

It was realized when the campaign was started that it would be necessary to have the hearty co-operation of the railroads. In discussing the problem with one of the chief operating officers, he made this significant statement: "Absence of smoke is an evidence of efficient combustion. If you folks can help us reduce the smoke from our locomotives, enginehouses and power plants, we can afford to go a long way with you, since it will mean a clear saving in dollars and cents in fuel consumption."

The Railroad Smoke Association of Hudson County was formed, made up of representatives from the nine railroads which operate in the county. Remarkable results have been achieved. Based upon a large number of observations—to be exact there were 10,388 locomotive stack readings taken during 1933—there was a reduction of 86 per cent in railroad smoke density in 1933, as compared to conditions when the Department of Smoke Regulation was inaugurated in 1931. That a still better record can be made is indicated by the fact that monthly reports show a wide range between the performance of the roads having the best and the poorest records. If the tailenders can come anywhere near achieving the performance of the leaders it will mean an almost complete absence of locomotive smoke in Hudson county, and this, as the railroad operating officer indicated, will represent a large saving in fuel on the part of the railroads concerned.



The Aluminum Alloy as Applied to Large Floor Beams, Floor Channels and Deck Plates

Introduce New High Strength Structural Aluminum Alloy

Product of research conducted at laboratories of Aluminum Company of America demonstrates applicability to bridge construction

By E. C. Hartmann

Aluminum Research Laboratories, Aluminum Company of America

A NEW high-strength aluminum alloy that is superior to other alloys of aluminum available in the form of structural shapes and plates has been developed in the laboratories of the Aluminum Company of America, and seems destined to play an important part in extending the use of this metal as a structural material. Its recent application in the renewal of the floor of the Smithfield Street bridge over the Monongahela river at Pittsburgh resulted in a reduction of 750 tons in the live load and thus afforded the means by which the old trusses of this bridge could be continued in service under live loads appreciably greater than those for which they were designed.

For a number of years, engineers have been using aluminum alloys to reduce dead load in certain types of construction, such as railway cars, cranes, dragline booms and trucks. The alloy most commonly used has properties comparable to those of ordinary structural steel, but weighs only about one-third as much. The new alloy, extensively used in the reconstruction of the Smithfield Street bridge, weighs no more than the older aluminum alloys, but has a yield point which compares favorably with that of silicon steel used in structural work. The new structural aluminum alloy has the following typical properties:

Weight	174 lb. per cu. ft.
Tensile strength	61,000 lb. per sq. in.
Yield point	49,000 lb. per sq. in.
Elongation in 2 in.....	10 per cent

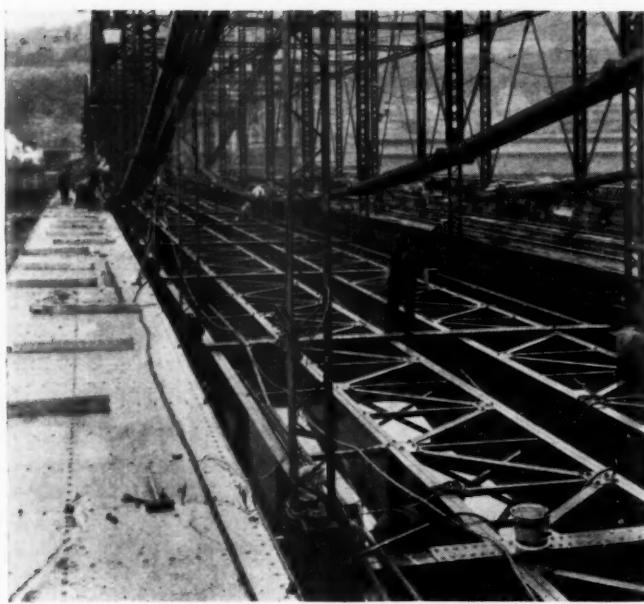
Modulus of elasticity..... 10,000,000 lb. per sq. in.
Shear strength 37,000 lb. per sq. in.

The tensile properties above represent the average obtained from a large number of individual determinations on samples cut from the variety of shapes and plates furnished for the Smithfield Street bridge.

The new alloy, like older structural aluminum alloys, is produced in a variety of standard forms, such as rods, bars, structural shapes, and plates. It obtains its properties by virtue of proper heat-treatment, and the shapes and plates are always furnished in the heat-treated condition. The finished shapes and plates are free from scale and present a fairly uniform metallic gray color somewhat darker than, and lacking the luster of, polished aluminum. The usual limiting dimensional tolerances are readily complied with.

The fabrication of structures from the new strong aluminum alloy involves no difficulties. All the usual shop operations, such as shearing, punching, drilling and reaming, can be accomplished with the same tools ordinarily used for steel. The burning torch should never be used and welding is resorted to only in special cases, the technique being quite different from that employed with steel. The material can be sawed readily on a band saw, and this is the ordinary method of cutting when shearing is impractical.

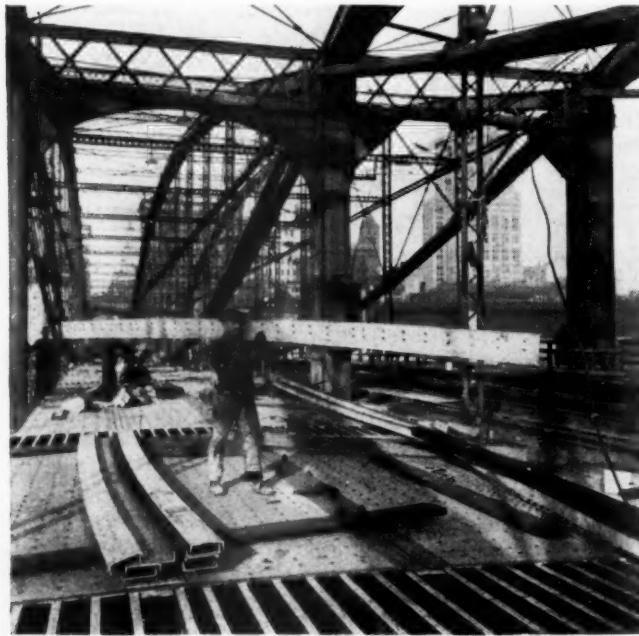
Parts are usually assembled by means of riveting. Ordinary hot steel rivets driven in the usual manner



A Portion of the New Aluminum Alloy Floor System in Place

are commonly used because they have greater strength and are more readily driven than any aluminum alloy rivets available at present. The heat of the steel rivets is dissipated so rapidly by the aluminum alloy that no damage results. Aluminum alloy rivets, driven either hot or cold, can be and are used when necessary, but, in the majority of cases, steel rivets are selected for the reasons already given.

Cold bend tests on $\frac{1}{16}$ in. sheets of the new structural alloy indicate a minimum permissible radius of $\frac{3}{16}$ in. for a single 180-deg. bend or a radius of $\frac{1}{4}$ in. for two repeated 90 deg. bends. Thicker flat material requires proportionately larger radii, but round rods $\frac{3}{4}$ in. in diameter will bend cold 180 deg. over a radius of $1\frac{1}{8}$ in. During the fabrication of the Smithfield Street bridge floor, it was necessary to bend angles through an angle of about 15 deg. on a 3-ft. radius. When the toe of the leg in the plane of the bend was in compression, the bend was made cold with no difficulty, but when the bend was in the other direction, it was necessary to heat the angle



An 8-in. Channel 21 ft. Long, Weighing only 101 lb.

locally to a temperature of 300 deg. F. in order to obtain satisfactory bends. Where greater workability is required, the material can be heated to 400 deg. F. without injury. The maximum length of leg of the angles subjected to the above bending operation was $3\frac{1}{2}$ in. in the plane of the bend. The bending was done on an ordinary "bulldozer" and the heating was done on a hot plate, a two-point pyrometer being used to determine the temperature.

While the new structural alloy is highly resistant to corrosive influences, it is not absolutely corrosion-proof and, when used in an exposed structure such as a bridge, it should be protected by painting. Naturally, the paint coating should be well worked in around the steel rivet heads. On the Smithfield Street bridge floor, the painting consisted of one shop coat of zinc chromate and iron oxide mixed in synthetic resin varnish, followed by two field coats of aluminum paint made with the same varnish.

The light weight of members built of aluminum alloys greatly facilitates handling in the shop and erection in the field. In the case of the Smithfield Street bridge, this fact contributed materially to the surprisingly rapid schedule of reconstruction. Highway traffic was suspended for only 24 days, while street railway and pedestrian traffic was uninterrupted.

Although the new aluminum alloy has less resistance to surface denting and scratching than structural steel, no special precautions were necessary in either the shop or the field. In fabricating the material for the Smithfield Street bridge, certain precautions were taken at first in the shop, but these were found to be unnecessary. In the field, the members were erected with the ordinary rigging, using no special care, and there was no breakage, permanent distortion or severe abrasion of any kind.

The relatively low ductility of the new alloy places a restriction on cold forming operations, but beyond this, it will not affect the usefulness of the material in any well designed structure. The alloy has adequate ductility to withstand such local distortions as often occur in fabrication or during service. For instance, in a drifting test, an $1\frac{1}{16}$ -in. diameter hole can be readily enlarged to $1\frac{3}{16}$ in. without fracture, and in an upsetting test a small cylindrical block can be permanently deformed to less than 50 per cent of its original length without any cracks developing.

The design of structures in which the new alloy is to be used involves no new problems to the designer familiar with the older structural aluminum alloys. Advantage will be taken of the greater strength by selecting a higher basic design stress. The allowable stress for compression members will decrease more rapidly with increasing slenderness than in the lower strength alloys, but will approach the same limiting values because the modulus of elasticity is 10,000,000 lb. per sq. in. in common with the other alloys. The combination of the higher basic design stress with the relatively low modulus of elasticity may lead to deeper beams and girders where deflection is of importance, but will probably have little effect on the general proportions of the bulk of the members in ordinary design. Some attention should be given to the effect of temperature changes if the aluminum alloy is used in combination with steel because the coefficient of expansion is about twice that of steel.

Heretofore, the use of structural aluminum alloys in place of heavier structural materials has led to a reduction in dead load of from 50 to 60 per cent. These savings should be substantially increased by the use of the new alloy, thereby changing somewhat the economic considerations involved in the selection of structural materials.

Should the City Ticket Office Be Abandoned?

Can a few railway depots compete with the numerous offices of other forms of transportation?



Some City Ticket Offices Serve As Many As 200,000 Persons a Year

THE value of city ticket offices in selling railway passenger transportation has long been under discussion. On the one hand, opponents contend that city offices can be abandoned and that existing depot ticket offices can perform the same function. Proponents, on the other hand, argue that city ticket offices are indispensable agencies for procuring railway patronage.

If depot ticket offices can perform the same function as city ticket offices, there is a wasteful duplication of facilities. On the other hand, if only city ticket offices can meet the selling efforts of competitors, and if these offices are economically justified, they are an essential part of the selling of railroad transportation.

In discussing the merits of city ticket offices, the major consideration is the competition offered by other forms of transportation. Bus, water and air lines and automobile travel agencies have established many conveniently located ticket offices in the larger cities in order to procure passengers. In Chicago, for example, there are 40 offices operated by established bus lines (not including offices operated on a commission basis), 18 offices operated by established air lines, 5 offices operated by established automobile travel bureaus and 149 offices operated by water lines, as compared with 40 railroad ticket offices, including 12 individual railroad city ticket offices, 15 offices in the consolidated ticket office, 7 depot ticket offices and 6 hotel ticket offices. In other words, based upon the number of offices, competitors are six times as well represented as the railways. If the number of railway offices were reduced to 7, (the number of passenger stations) competitors would be 30 times as well represented. Can it be assumed that 7 railway depot ticket offices can compete successfully with the 212 city offices of competitors in that city?

The importance of adequate representation is illustrated by the action taken by other industries during recent years. They have increased the number of places at which their products can be purchased, believing that a large number of outlets will procure more business than one or a few. The most outstanding examples are the two largest national mail order houses. Originally they sold all their merchandise from one store but recently they have endeavored to contact their customers more closely by establishing retail stores in all the larger

cities. Department stores of large cities have likewise increased their representation by opening branch retail stores in suburbs and nearby towns. In addition to these, "chain" store systems, which have become numerous in recent years, testify to the need for greater representation.

This trend toward greater representation also prevails in the transportation field and is illustrated by the note published by the United Air Lines in the Official Guide of the Railways. It reads, "Write or telephone United Air Lines' nearest ticket office listed in telephone directory or general traffic offices at Chicago. Also the transportation desk of leading hotels; American Express; 'Ask Mr. Foster Travel Service'; Thos. Cook & Sons; and other Travel Bureaus; and Western Union and Postal Telegraph offices—without extra charge. Reservations may be made by telephone; uniformed messenger will deliver ticket order and collect air fare without extra charge within city limits."

Adequate Office Representation Essential

While adequate office representation is essential to the selling of any product, the location of that office with respect to the center of general business activity in a community and with respect to competition, is a determining factor in adequate representation. This is particularly true in selling railroad transportation and is illustrated by the Chicago situation, which is typical of large cities. None of the seven railway depot ticket offices in that city is within the downtown store, theatre, financial and office district. They are located from a quarter mile to a mile from the center of the district. The Chicago situation is further complicated by the fact that almost all of the offices of bus, water and air lines and tour agencies are located within the downtown district.

If those seven railroad stations were the only ones at which the public could secure railroad travel information, would it take the trouble and time to go to these inconveniently located depots? Is it not reasonable to assume that the convenient offices of competitors would attract more patronage? Since the number of people who travel for business reasons is relatively constant, the greatest undeveloped field for railroad passenger

service is comprised of those people who travel for education, relaxation and pleasure. They frequent the downtown district rather than the areas adjacent to the railway depots and as a result, the development of their patronage is accomplished most effectively by offices in the downtown district. If the railroads had a monopoly on travel, it might be possible to confine the sale of tickets to the depot ticket offices but even with a monopoly, such a practice would be a serious inconvenience to the traveling public in the larger cities. However, far from having a monopoly, the railroads are faced with the most active competition for traffic. If the highway transportation agencies were properly regulated as to rates and practices, if all transportation agencies were required to observe tariffs properly filed with a governing body, if airplane lines were not permitted to sell their transportation except at airports, if motor bus lines were permitted to sell their transportation only at bus depots and if so-called automobile travel bureaus were legislated out of existence, then, and then only would the railroads be in a position to restrict their ticket sales to depot offices.

Can Depots Function As City Offices?

Can the depot perform the same function as the city ticket office? Most of the stations in the larger cities are used by two or more railroads and because they are often competitive, it is necessary that the forces in the ticket offices in these stations be neutral employees who will not favor one road over another. Under such an arrangement, the railroad depot ticket seller is nothing more than an order taker, for he is in a position to sell only what the passenger asks for. That service is satisfactory to a substantial portion of railway patrons who must and will travel regardless of any solicitation on the part of the railroad, but there is another large class which requires the best soliciting efforts that the railroads can exert. This large class includes those not thoroughly familiar with railroad travel, those who are not particular as to destination or who have not definitely decided to make a trip at all, and those who, by the efforts of the railroad salesman, will make longer and more extensive trips if complete and understandable plans are submitted to them. To insure that the depot ticket office will render proper service to this type of traveler and at the same time not inconvenience patrons who purchase their tickets at depots just prior to train departures, the facilities of the city ticket office would have to be duplicated at the depot.

The city ticket offices, besides selling tickets, perform other services for the traveling public which cannot be handled as well in depot ticket offices. Hotel reservations are arranged for, sightseeing tours planned and passengers, by solicitation, induced to take "expense tours," either individually or escorted. By these extra services, the city ticket office builds up good-will. In addition, the advertising value of city ticket offices is an important consideration. They are considered by some authorities as the most valuable means of advertising that the railways have. City ticket offices have valuable window space for displaying their advertisements and because of their location, the places for display are such as to bring the greatest return. It has been estimated in certain instances that the value of the advertising space of city ticket offices is equal to at least 40 per cent of their cost of operation.

Employees in City Offices Have Many Duties

To determine whether depot offices can perform the same function as city ticket offices, it is necessary to

ascertain what work is actually done in the latter. The duties of 23 employees in a city ticket office of one railroad in Chicago are as follows: a division passenger agent has general supervision of the office, oversees solicitation and consults with the transportation department concerning extra equipment. A city ticket agent has direct supervision of the ticket office, ticket exchanges and rail and Pullman reservations and accounts. City passenger agent No. 1 handles general convention business, special movements including baseball parties, private car business and all solicitation and correspondence in connection therewith. City passenger agent No. 2 handles the general solicitation of theatrical movements, radio entertainers, moving picture artists, basketball, football and bowling teams and the interchange of persons with other lines. City passenger agent No. 3 handles the solicitation of individual business in oriental traffic, meets passengers who need assistance and handles special assignments. A traveling passenger agent handles the solicitation of Chicago suburban territory and some special assignments in the city. An assistant city ticket agent handles correspondence in connection with ticket exchanges, sells tickets and generally oversees statements and reports. Seven ticket clerks sell rail and Pullman tickets, replenish ticket stocks, deliver tickets, keep up tariff files and supply general literature. In addition, there is ample work for a cashier, an accountant, four reservation clerks, two stenographers and a messenger.

While hotel ticket offices are not the same as city ticket offices, they serve a definite purpose and must be considered with city ticket offices. In large cities, particularly in the East, the sale of railroad tickets in hotels is controlled by hotel porters. The latter add a service charge when they collect for a ticket upon its delivery and have a tendency to tie up space in sleeping car equipment by reservations which cannot, as a competitive proposition, be questioned by the railroads. The result has been that in many instances space so reserved is not covered by the purchase of tickets and trains pull out of the terminal with space unoccupied. That situation is controlled at the hotels in Chicago where the railroads have established jointly owned hotel ticket offices. In most of the larger hotels in which the railroads have joint ticket offices, competing transportation agencies also have offices and undoubtedly would continue those offices even though the railroads discontinued their service in the hotels. It is necessary, therefore, that the railroads shall not relax their efforts to secure and hold as much as possible of the traffic ticketable at the hotel offices. A further highly competitive condition at the hotels is the fact that many bus lines make regular scheduled stops at the larger hotels while the air lines have taxicab service from the hotels to the airports, the cost of which is included in the regular fare of the air lines.

Sales Expense Justifiable

In considering the city ticket office and its relation to selling railway service, the sales expense must of course, be justified. If the cost of securing passengers is excessive, the method of distribution is inefficient. A study of 13 city offices in Chicago shows that the annual rental and salary expenses are 6.4 per cent of the revenue from ticket sales. This expense is divided as follows: Rental, \$104,969 and salaries, \$103,242, or a total of \$208,211; the receipts are, \$3,239,696. The latter is divided as follows: Local, \$849,720; commutation, \$70,725; interline, \$1,655,962; and sleeping and parlor cars, \$675,830. The relation between expense and receipts in some offices, however, is much lower than 6.4 per cent; in one office

it was 2.4 per cent, in another office 3.7 per cent and in another 4.5 per cent. In the 13 offices studied, entertaining expenses of solicitors aggregated about 1 per cent of the tickets sold by the solicitor, an item which cannot be charged against the expense of operating a city ticket office, for such expense would still exist if the city office were abandoned.

Is 6.4 per cent too much to expend for securing passengers? To answer this, the good-will advertising and service value of the office must be taken into account for they are worth something to the railroad, and will be lost if the office is abandoned. Furthermore, the 6.4 per cent compares favorably with the commissions paid to tourist agents by other transportation agencies. Also, it is significant to consider the expenses borne by competing agencies. Several examples may be cited. The railroads formerly paid a rental of \$185 a month for a ticket office in Chicago and when that office was closed, the Greyhound Bus Lines opened an office in the same neighborhood at a rental of \$500 a month. At one of the leading downtown hotels, an air line pays a rental of \$200 per month, as compared with \$100 per month paid by the railroads in the same hotel. An air line pays a rental of \$1,000 per month in a club building, as compared with \$250 paid by the railroads in a nearby hotel. A bus office in one hotel pays a rental of \$175 per month, while a railroad office in a hotel two blocks distant pays \$75. A joint bus line office in another hotel pays \$250 per month rental, whereas a railroad ticket office in the same hotel pays \$50 per month.

Loss in Traffic, Good-Will and Advertising Would Offset Economy

In conclusion, the abandonment of city ticket offices in large cities would appear to cost the railways more than the amount saved. If depot offices absorbed city ticket offices, the monetary saving would be confined to rentals and salaries and to only a portion of these. The saving in rent would be offset in part by the increased space required at depots. The saving in salaries would be reduced by the salaries of additional employees required at depots. Even more important, such intangible assets as the advertising and good-will values of city offices and their ability to create patronage and to secure customers who would use other forms of transportation rather than go to an inconveniently located depot office, would be lost and the loss, if reduced to a monetary value, would more than exceed the rentals and salaries now paid in city offices.

* * *



On the Indiana Harbor Belt

Wage Agreement Extension Requested By President

WASHINGTON, D. C.

EXTENSION for another six months, from June 30, of the present railroad wage agreement providing for a 10 per cent deduction, was suggested by President Roosevelt in a letter addressed to the Conference Committee of Managers representing the railroads and the Railway Labor Executives' Association on February 14. The letter was made public on February 15 after the conference committee had served notice proposing a 15 per cent general reduction of basic wage rates to become effective at the expiration of the present agreement, but it was written in advance because of the approach of the time specified in the agreement when either side could submit a new proposal. The matter had been brought to the President's attention by the Railway Labor Executives' Association and he had also taken it up with C. R. Gray, president of the Union Pacific, and with Co-ordinator Eastman. The President's letter follows:

President Roosevelt's Letter

"On June 21, 1933, the railroad managers and the railroad labor executives entered into an agreement under which the arrangement by which 10 per cent is being deducted from the pay checks of railroad employees was extended from October 31, 1933, until June 30, 1934, and under which the date on which either party could submit a notice in accordance with the provisions of the Railway Labor Act, indicating a desire to change the basic rates of pay, was extended from June 15, 1933, to February 15, 1934.

"It was stated that this agreement had been reached because both the railroads and the employees wished to do nothing which would in any way embarrass or threaten the policy of the Administration; that they realized that the Government had embarked upon a wholly new policy designed to promote business and industrial activity and to further the general welfare; that they appreciated that until the results of this policy could be more clearly determined, it would be difficult to deal wisely with the wage controversy; and that the active prosecution of such a controversy at that time might have a most disturbing and unsettling effect. Neither side relinquished in any way its views as to what the wages should be, but they agreed to a postponement of the controversy out of deference to what they believed to be the desire and policy of the Administration and in the general public interest.

"The advent of February 15 makes it necessary again to give consideration to this wage matter. Marked progress toward national recovery has been made since last June, and I am sure that the goal will be reached. Nevertheless much remains to be accomplished, the emergency still exists, and the country has not yet attained conditions of stability. There has been comparatively little change in the cost of living, but prices are unsettled and I am hopeful that they will in general rise to higher levels. The traffic of the railroads is improving, but their financial condition is still impaired and their credit has not yet been restored so far as private capital is concerned. Under present conditions the prosecution of a bitter controversy between the railroads and their employees over wages would have a most disturbing influence, and I am further convinced that con-

ditions are not yet sufficiently stable to permit of a wise determination of what the wages should be for the future.

"In the circumstances I venture to express the hope that the railroads and their employees may be able to agree upon an extension of the present agreement for at least six months. I am confident that such an extension would be of advantage to those directly concerned, and also to the entire country."

President Roosevelt is holding open two vacancies on the Board of Mediation, it was stated at the White House on February 16, pending receipt of a report expected shortly from Co-ordinator Eastman on proposals for railroad labor legislation which may propose some reconstruction of the board with a view to a simplification of the present machinery for the adjustment of railroad labor controversies. The board now has three members and the vacancies were caused by the recent death of F. P. Glass and the expiration of the term of O. B. Colquitt. At the request of the Railway Labor Executives' Association bills have been introduced in Congress proposing several amendments of the railway labor act, and Mr. Eastman has been asked to make a report on these bills. He is also conducting an elaborate investigation of the whole subject of railroad labor relations which will be made the subject of a later report.

A. F. Whitney, chairman of the Railway Labor Executives' Association, after a conference with the President on Monday, said he had informed W. F. Thiehoff, chairman of the conference committee, that the labor representatives would welcome a meeting with it at Washington on March 15. The conference committee has informed the President that it has communicated with the labor committee and that it would meet with the latter on March 15 at Washington.

R. F. & P. Centennial

THE Richmond, Fredericksburg & Potomac was chartered by the General Assembly of Virginia on February 25, 1834, and the current Monthly Bulletin of the company celebrates the anniversary with an interesting historical account by W. D. Duke, general manager of the road. The line was opened from Richmond to Fredericksburg, 61 miles, in January, 1837, and it has remained under the same organization and name from the beginning. From 1872 to 1901 the northern terminus was at Quantico, Va., 82 miles from Richmond. In 1901 the Richmond-Washington Company, owned by the Pennsylvania, the Baltimore & Ohio, the Atlantic Coast Line, the Seaboard Air Line, the Chesapeake & Ohio and the Southern—one-sixth each—was organized to control the R. F. & P. and the Washington Southern, making a line through from Richmond to the Potomac River at Washington, 109 miles. The Washington Southern and the R. F. & P. were merged February 24, 1920.

The present article is illustrated by a picture of a train, with passenger cars made in the style of stagecoach bodies—no date given; by a view on Broad Street, Richmond, October 14, 1865, and by a few other pictures.

A timetable advertisement dated May 30, 1836, reproduced in miniature, is headed "Inland Route for Northern and Southern Traveling," and gives a condensed timetable from Blakely, N. C., to New York. Evidently the main purpose of the poster was to attract through travel. The time between Blakely and New York, north-

ward, was 54 hours; southward, 57 hours; New Orleans and New York, 12 days 13 hours northward and 13 days 8 hours southward. The route between Blakely and Baltimore consisted of 126 miles railroad, 50 miles steamboat and 67 miles stages. By arrangements then being made, passengers with their baggage were to be conveyed to and from the station—presumably, only in Richmond—without charge. "Carriages and horses are safely and expeditiously transported," says the placard, and similar accommodations could be had on the Potomac steamboat north of the R. F. & P., and the Petersburg Railway, south of Richmond.

Major E. T. D. Meyers, who served the road from 1869 as engineer of roadway and who was president from 1889 to 1905, presented a few historical notes in his annual report for 1900, from which it appears that for many years after 1836 there was no track connection with the railroad south of Richmond, because the R. F. & P. station was 100 ft. higher than that of the road to the south. The original track was made of very light strap rail—16 lb. per yard and lighter—laid on wooden stringers. Beginning about 1842, this was gradually replaced with iron rails weighing 40 lb. to 50 lb. per yard. Between 1877 and 1885 most of the main track was laid with 56-lb. steel rails. But in January, 1884, there was still in the main track iron rail to the extent of 18 miles. The union station at Byrd street, Richmond, was built in 1887. The James River Branch, making a connection $3\frac{1}{3}$ miles long to the Atlantic Coast Line, was opened in 1891. By 1893 the main track had 31 miles of 67-lb. rail, and by 1895, 40 miles of 75-lb. rail.

The R. F. & P. in the Civil War

During the Civil War this road was in the center of military operations, and the line was alternately in possession of the Union and the Confederate forces. In March, 1865, the four principal bridges south of Fredericksburg and a train of 28 freight cars were destroyed by the United States forces. Three of these bridges had been destroyed twice before during the war. During the World War this road was one of the most important lines in the country for the transportation of troops. In September, 1918, 393 special trains were run for this purpose. While all the roads of the country were operated by the government from January 1, 1918, to March 1, 1920, the profit to the government on this line was larger proportionately than the operation of any of the railroads.

From further historical notes, it appears that down to 1849 this company operated the railroad from Doswell, Va., westward to Gordonsville. The first contract for a telegraphic line was made April 27, 1861.

In 1872 passengers traveling northward had the choice at Quantico of taking a boat to Washington or going over the Alexandria & Fredericksburg and the Alexandria & Washington (the two lines afterwards consolidated into the Washington-Southern). The connection with the Seaboard Air Line was completed in 1900. The entire line from Richmond to Washington was double-tracked in the years 1902 to 1907, much straightening of line and elimination of curves being carried out at the same time. In the years 1909-1912, washed gravel ballast was laid over the whole road, and the company has gravel pits sufficient to supply it for the next 40 years. The construction of the new bridge at Fredericksburg, together with elimination of grade crossings in that city, was carried out in 1927.

Today this road, connecting with all northern lines at Washington and all southern lines at Richmond, runs 11 through express trains each way each day.

Prospects and Problems of the Railway Supply and Equipment Industry*

The volume of future purchases will depend upon railway gross and net earnings as influenced by government policies and the revival of general business

By Samuel O. Dunn

Chairman of the Board, Simmons-Boardman Publishing Company, and Editor, Railway Age

THE railway supply and equipment industry always has been over-shadowed by the railroad industry, which constitutes its market, and its problems have been, and still are, both obscured and complicated by those of the railroads. It includes parts of so many industries, and in some respects the interests of its various parts are so diverse and seemingly even conflicting, that often they are not conscious of the fact that they are parts of the same industry, and work at cross purposes. There is, as a matter of fact, only one thing that all parts of the railway equipment and supply industry have in common. That is, their interest in the railroads as a market. Only, therefore, by considering the magnitude of the purchases made by the railways from other industries can we measure the size and importance of the railway supply and equipment industry. Furthermore, no intelligent consideration can be given to the prospects and problems of the railway supply and equipment industry which is not predicated largely upon consideration of the prospects and problems of the railroads.

How Large is the Railway Supply Industry?

In the five years ending with 1929 the total purchases made by the railways from manufacturers and from producers of fuel averaged about \$1,710,000,000 annually. This figure is an estimate arrived at by excluding as accurately as practicable from every item of railway expenditure all payments made by the railways themselves for labor. Of the amount mentioned, about \$427,000,000 was used in buying fuel and about \$1,283,000,000 in buying equipment and supplies from manufacturers.

What has happened to this great industry, its investors, its employees and their families, during the four years of depression since 1929? The answer can be given only in statistics, but these statistics tell a tragic story.

The accompanying table shows in terms of money, without duplication, and as accurately as available data render practicable, the average annual amounts of purchases made by the railways from the railway equipment and supply industry in the five years 1925-1929, inclusive; the average annual purchases made in the four years 1930-1933, inclusive, and, also, the purchases made in the years 1931, 1932 and 1933. It will be recalled that in 1930, although it was a year of depression, the railways actually increased their capital expenditures at the request of the Hoover administration to help maintain business. Consequently, their purchases in the subse-

quent three years are the true measure of the effect of the depression upon the railway supply and equipment industry.

Total purchases from all manufacturers of railway equipment and supplies declined from an annual average of \$1,281,000,000 in 1925-1929 to an annual average of \$571,000,000 in 1930-1933, or 55 per cent. In 1932 they were only \$291,000,000, or 77 per cent less than the 1925-1929 average and in 1933, \$282,000,000, or 78 per cent less.

What Are the Prospects for Future Purchases?

Ordinarily the immediate prospects for railway purchases are determined entirely by current and immediately prospective railway gross and net earnings, but immediate prospects are now being determined also by actual and prospective government loans to the railways. Loans amounting to about \$200,000,000 have been allotted to the railways from the government's public works fund mainly for the purpose of enabling them to increase their purchases from other industries. There is good reason to believe that the government is willing to make additional so-called "works" loans to the railways during this year, and in my opinion the railways should be willing to accept them if terms are offered similar to those under which loans are now being made.

A question of much greater importance is in regard to prospective railway traffic and earnings. From gross earnings the railways must buy most of the materials and supplies used in operation and maintenance. Net operating income affords them the means of directly and indirectly making capital expenditures, which include equipment and improvements in roadway and structures. No large increases in gross earnings and net operating income can occur without large increases in traffic due to improvement in general business, and, also, in part, to changes in government policies that will equalize the conditions under which the railways must compete with other agencies of transportation.

The Upward Trend of Railway Gross and Net

Now, as respects railway gross earnings and net operating income in the near future, we are justified in feeling somewhat optimistic. The trend of car loadings is the best single measure of the trend of general business. The trend has been upward ever since October, and if this upward trend should be maintained, railway traffic and earnings in 1934 would largely exceed that of either 1933 or 1932, and in the latter part of the year exceed those of 1931.

Increased traffic would mean increased gross earnings and relatively much more greatly increased net oper-

*Address presented before the Western Railway Club on February 19 at Chicago.

ating income, accompanied, if we may assume all past history would repeat itself, by increased railroad buying, for in every past period when the railways were emerging from a depression, they largely increased their buying. In 1921, for example, the number of locomotives ordered was 239 and in 1922, 2,600; passenger cars ordered in 1921 were 246, and in 1922, 2,382; freight cars ordered in 1921 were 23,346 and in 1922, 180,154. The obsolescence and deferred maintenance that have accrued during the last three years vastly exceed those that accrued under government operation and during the depression of 1921-1922, and, assuming that we are to have a real revival of business, the expenditures the railways will need to make in future in order to handle traffic well and economically, will be proportionately large.

In order, however, to deal realistically with the prospects and problems of the railway equipment and supply industry, it is essential squarely to face certain facts. General business apparently is improving again, but wherever students of economic and business trends now discuss the situation there is raised the question as to

General business markedly improved throughout the last one-third of 1932 and again during April, May, June and July, 1933. In July and August, 1932, car loadings were 52 per cent less than they averaged in the corresponding months of 1925-1929. They improved during the last one-third of 1932 until in December they were only 43 per cent less than in 1925-1929. This improvement was relatively as great as that which occurred during April, May and June, 1933, and convinces me that the decline in business that occurred in the first one-third of 1933 was due entirely to the banking crisis, and that the increase in business which occurred following the banking moratorium in March was mainly a resumption of the natural improvement that began late in the summer of 1932. As to the banking crisis, it could have been avoided if the government had imposed restrictions upon withdrawals from the banks some months before it did. It is because it is demonstrable that general business did substantially improve in the last one-third of 1932, and again immediately following the banking moratorium, before the present "recovery" and "relief" policies were in effect,

Purchases of Railways from Railway Supply and Equipment Industry

(All figures shown in millions of dollars)

	5-year average 1925-29	4-year average 1930-33	Per cent decrease, 4-year under 5-year average	Year 1931	Per cent decrease under 5-year average 1925-29	Year 1932	Per cent decrease under 5-year average 1925-29	Year 1933	Per cent decrease under 5-year average 1925-29
Capital expenditures:									
Locomotives	\$61	\$25	59	\$11	82	\$2	97	*	99
Cars	193	66	66	21	89	3	98	1	99
Total equipment	\$254	\$91	64	\$32	90	\$5	98	\$1	99
Roadway and structures	161	87	46	89	45	45	72	26	84
Operating expenditures:									
Fuel	427	221	48	224	47	178	58	167	61
Lumber	153	73	52	68	56	47	69	54	65
Iron and steel	395	172	56	198	50	91	77	102	74
All other	318	148	53	157	51	103	68	99	69
Total manufactures (excluding fuel)	\$1281	\$571	55	\$544	58	\$291	77	\$282	78

* Less than one million dollars.

how much of the apparent improvement is real. The government is following certain policies of expending large amounts of money to increase employment, and other policies of regulating business both to increase employment and accomplish other purposes, and these policies are so unprecedented as to make it difficult to determine the true reasons why general business apparently is improving, and the amount of the improvement that is real and therefore may be expected to be lasting. How much of the increase in railway car loadings and earnings that is occurring is due to increased production and commerce in private business, and how much to temporary government spending through PWA and CWA? Is the government spending being done helping to "prime" private business so that it will be able to carry on better in future and thereby render unnecessary and undesirable continuance of government spending on a grand scale? Are the government's "relief" and "recovery" policies producing apparently beneficial effects now that in the long run will do more harm than good, or are we actually emerging from the depression with their aid, or, perhaps, in spite of them?

Three Influences Affecting the Economic Future of the United States

In my opinion, most or all of the increase in production and commerce that recently has occurred in the United States has been due to the operation of the same causes that pulled us out of previous depressions.

that I am constrained to believe that most of the improvement in business that has occurred and is still occurring has been due to natural economic readjustments and the efforts of business men, and not to new government policies. There can be no question that part of the increase that is now occurring in the purchase and distribution of goods, and which is reflected in the increase of railway traffic, is due to various uses being made of government money, but I believe that even the temporary effects thus far produced by government spending in stimulating business are smaller than most persons believe.

There was very little doubt in my mind from the beginning that the so-called "recovery" policies of the government, which are best represented by NRA and the securities act, would hinder the revival of general business, and there is no doubt in my mind now that they have had, and are still having, and, if continued, will continue to have, that effect. A normal increase in railroad car loadings between July and October is 15 per cent. In 1932 the increase was 30 per cent. A normal increase in car loadings between March and July is 5 per cent. In 1933 it was 35 per cent. Why, then, was the increase between July and October, 1933, after the "recovery" policies were in effect, only 5 per cent, or relatively only one-third as much as normal, and relatively only one-sixth as great as between the same months in 1932? And why has business shown an upward trend again since October? In my opinion the

reversal of its trend from upward to downward in August, September and October was due to the so-called "recovery" policies of the administration, and that the improvement which has occurred since then has occurred in spite of those policies, and not because of them. NRA increased costs, hindered or prevented increases in profits, and indirectly increased prices in industry and business just when, according to all previous experience in depressions, increases in costs and prices were highly undesirable and increases in profits were highly desirable.

The apparent improvement in general business which is now occurring is in the main real. It is occurring owing to natural causes in spite of the government's so-called "recovery" policies. It will continue in length of time and in volume in proportion to the power of natural economic developments and the efforts of business men to overcome the resistance to recovery offered by the government's economic policies.

In considering the prospects of general business it is, in my opinion, of vital importance that all business men should squarely face the fact that the American people are now confronted with the most important economic and political issues with which they have ever been confronted in their history. These issues are economic, because they concern the production and distribution of all income and wealth. They are political, because the way in which the government is dealing with the economic relations between different classes of the people can hardly fail to array these classes against each other in great political struggles.

"Capitalistic" as Opposed to "Socialist-Labor" Philosophy

Roughly speaking, two kinds of economic philosophies are accepted in the civilized world today by such persons as actually have studied economics. One may be called the "capitalistic" philosophy, the other the "socialist-labor" philosophy. The former has heretofore prevailed in government and business in the United States. The latter is now dictating the economic policies of our national government.

No better illustration of the dominance of the present "recovery" policies by the socialist-labor philosophy could be afforded than by statements made by General Hugh S. Johnson, administrator of NRA, in an address delivered by him in Worcester, Mass., on January 25. In summary, General Johnson said:

Ninety per cent of the complaints that small business concerns were or may be oppressed by large ones come from establishments which said that to survive they must exploit their workers. *** The very fundamental of its (NRA) purpose is that a (business) unit that can not live except by exploitation shall no longer be preserved.*** The chief fault had been that too much of the product of domestic industry, labor and agriculture had been diverted from the people's purchasing power to permit them to consume what they produced and in the midst of plenty they were threatened with starvation.*** Too little had been distributed as wages and dividends, and the result was a grotesque speculative structure of values, an elephantine production plant, a creeping paralysis of employment which began as far back as 1926, a decay which began even farther back in 1921, and an interior cavity in domestic consuming power which started coincident with this diversion and impairment of the proper income of farmers and workers.

In making these statements, General Johnson accepted as basic the socialist-labor assumption that the present depression occurred because the products of industry in general were not passed along in sufficient volume to enable the people in general to buy and consume enough of what they had produced. This theory is acceptable to labor unionism because it supports its argument that high wages create prosperity, and that therefore the way to end a depression is to raise wages. There are,

however, no facts in economic history which support the argument. A large and increasing production of goods, and of the means of producing goods, is what creates prosperity and makes possible and causes high incomes, including high wages. There have been numerous depressions in this and other industrial countries since the industrial era began somewhat more than a century ago. The facts of history plainly indicate that they were due to the same kinds of causes as the present depression. They were due, not to the inability of consumers in general to buy the products of industry in general, but to the development of economic maladjustments resulting in some industries and their employees becoming unable to buy the products of other industries and their employees. This was unquestionably the principal cause of the present depression. All other causes were merely contributory to the principal cause.

Failure thus far to end this depression has been due principally to continuing maladjustment between the durable goods industries and the consumers goods industries, as a result of which it has been impossible to revive adequately the demand for the products of the durable goods industries, which include the railway equipment and supply industry. No amount of stimulation of the demand for consumers goods by the expenditure of government money will restore prosperity and employment. It can be restored only by readjustments in the relations between different industries which will revive the demand for durable goods. The demand for durable goods can be fully revived only by enabling the industries that want to buy them to make profits on the basis of which their purchase can be financed. The increase in the purchases of the railways from most parts of the railway equipment and supply industry will be roughly in proportion to the increase in railway profits. Unfortunately, the making of the profits necessary to enable other industries to buy largely from the durable goods industries is contrary to the now dominant socialist-labor economic philosophy.

Everybody who reads the newspapers knows that recently radical public men of great influence who accept the socialist-labor economics regarding working hours and wages, have been attacking the raising of prices under the NRA codes, and demanding that the government again invoke the Sherman anti-trust law to destroy "monopolistic" agreements to raise prices, codes or no codes.

Again it may be said that Administrator Johnson is right in declaring war on behalf of the government against small business men and business concerns that cannot continue to exist without "exploiting" their labor, according to NRA standards. Men connected with large companies may be disposed to take this view because they believe its application will drive out their small competitors. But if it is now accepted as sound government and economic policy to so reduce working hours and increase wages as to render the making of profits in small business impossible, is it not likely to be accepted later, on the same principle, as sound policy to fix working conditions and wages which will render it impossible for large companies to make profits?

Donald R. Richberg, general counsel for NRA, recently in a public address made the statement that industry exists to give employment and pay wages and not to make profits. Industry exists to so produce goods that it can both give employment at reasonable wages to its workers, and earn profits for its investors, and when the time comes that no profits can be made in industry, no more private capital will be invested in it, and it will become necessary for the government to

own and operate all industries. That, of course, would mean the adoption of socialism.

Is it the purpose of the government to continue to apply the socialist-labor economic philosophy to industry, and to fix hours of work and wages regardless of profits, or to apply its socialist-labor policies only during the present emergency, and later treat business men as if they have as much right to exist as their employees? Obviously, the future of your business and everybody else's depends largely or mainly upon the answer to that as yet unanswered question.

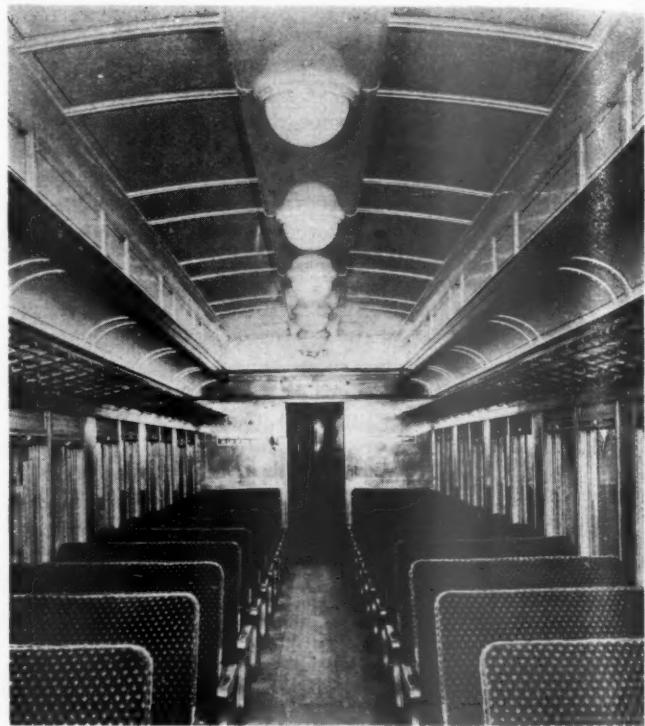
Let us assume, however, for purposes of discussion, that the rights and interests of wage earners are not to be permanently treated as entirely paramount to those of investors and business men, and that as business revives, increasing profits will be allowed to be made, and allowed to contribute, as they always have in the past, toward terminating the depression and re-establishing prosperity. What, then, are the prospects and problems of the railway equipment and supply industry?

Revival of General Business Will Greatly Stimulate Railway Buying

There is, in my opinion, no reason for doubting that, in the absence of excessively socialistic and restrictive government economic policies, the total volume of production and commerce in this country will again expand until, within a few years, it will exceed all previous records. It also seems probable that government policies will be adopted which will greatly reduce present inequalities in the conditions under which the railways must compete with other agencies of transportation. In that case the railways will be confronted with the necessity of both rehabilitating their properties and of so improving them as to enable them to nullify the advantages now enjoyed by their highway competitors which are due to the physical characteristics of motor vehicles. Never within our time has there accrued so much railroad obsolescence and deferred maintenance as has been caused by the reductions of capital and maintenance expenditures during the last three years. Never have the railways been confronted with competition requiring such changes in their facilities to enable them to hold and recover their passenger and freight traffic. In view of these plain facts it would appear that a revival of general business is certain to cause a very large increase for some years to come in the business of the railway supply and equipment companies and that their greatest problem and, also, their greatest opportunity will be to show the inventive genius and initiative necessary to enable them to provide the railways with the improved equipment and other facilities required to enable the railways adequately to reduce their operating expenses and, at the same time, adequately to improve their service.

Cost of Maintaining York Air-Conditioning Equipment

In 1930 one passenger car equipped with air-conditioning apparatus produced by the York Ice Machinery Corporation was in service. By the following year the number had increased to 38; in 1932, 142 cars were in operation and at the present time more than 200 cars on seven different railroads are carrying York air-conditioning equipment. These cars have traveled an aggregate distance of some 23,000,000 car-miles. Based



Coach Equipped with York Air Conditioning Equipment and Central-Direct Air Distribution

on a careful study of performance records, cost of operation and experience gained in three seasons of operation, some interesting facts have come to light.

It was found that repairs and replacements of the air-conditioning equipment have cost less than \$135 for all the York equipment installed to date. No batteries, pistons, rings, valves, shafts or other major parts have been found defective or required replacement.

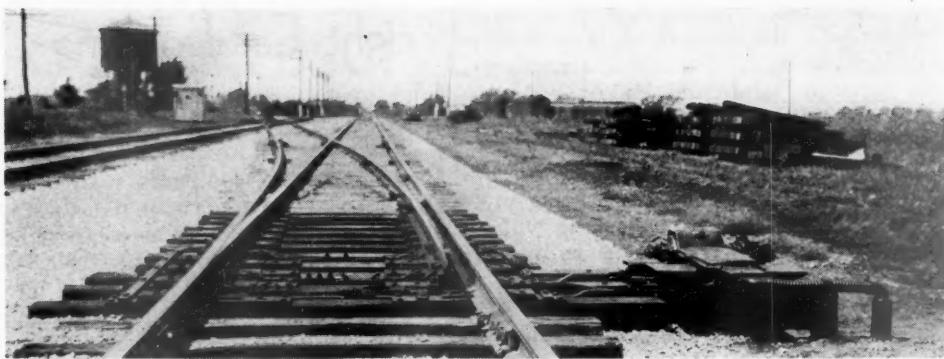
A check of the 1932-33 season showed that loss of refrigerant from all causes, such as valve-stem leakage, system purging, etc., has averaged not more than 1½ lb. per car per month. This is an operating cost item of approximately \$1.00 per car per month.

Records of one railroad during 1933, which include labor used principally for inspection and minor adjustments to equipment, required approximately half time of five men for 140 cars, which is equivalent to a maintenance cost of only \$3.60 per car per month.

* * *



A Baltimore & Ohio Passenger Train in the Union Station at Washington, D. C.



The Switches Are Well Braced and Tie Straps Are Used

Remote Control on the Burlington

Mechanical interlocking at crossing replaced by electrical equipment
controlled remotely at Albia, Iowa

By W. F. Zane

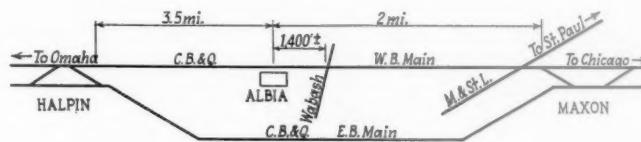
Signal Engineer, Chicago, Burlington & Quincy, Chicago

THROUGH Albia, Iowa, the two main-line tracks of the Chicago, Burlington & Quincy are widely separated. The original single-track line, now the westward main track, passes through the town and serves the passenger station. The eastward main, which was so located as to afford lower grades in this direction, leaves the old line at Halpin, 3.5 miles west of Albia, and swings to the south of the town, connecting again at Maxon, 2 miles east of Albia. Through trains are operated in the direction of normal traffic, but passenger and local freight trains serving Albia, as well as trains to and from the branch line leading to Des Moines, are operated in both directions over the westward track, on which the passenger station is located.

About 1,400 ft. east of the station at Albia, the westward main track is crossed by a single-track main line of the Wabash, and at Maxon by a single-track main line of the Minneapolis & St. Louis. Originally there were three separate mechanical interlockings in this vicinity, one at Halpin, another at the Wabash crossing, and a third at Maxon. On the westward main track between Halpin and Maxon, train movements were directed by signal indication in either direction, but the signals were operated from the three towers, the traffic-direction being handled by check-locking between Halpin and Albia, and between Albia and Maxon.

In 1929, the mechanical interlocking at Halpin was

replaced by a low-voltage plant which is remotely controlled from a machine in the Albia station. Likewise, in 1927, the interlocking at the Wabash crossing was replaced with a low-voltage plant, which, also, is remotely controlled from the Albia station. These plants, in addition to eliminating the mechanical plants, did away with the check-locking between Halpin and Albia, centralized traffic control being used between these points.

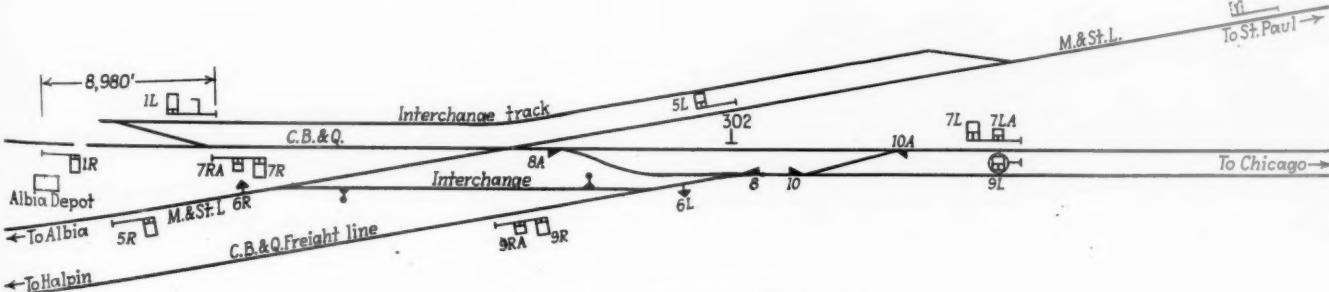


Sketch of Track Layout, Halpin to Maxon

This, however, left the train operation between Albia and Maxon unchanged, with the check-locking in service.

Maxon

On December 4, 1932, the tower at Maxon was completely destroyed by fire. Rather than rebuild the mechanical interlocking, it was decided to install a low-voltage plant and control it also from the station at Albia. There was also included in the project the extension of the c.t.c. to eliminate the check-locking on the west-



ward track between Albia and Maxon, as well as on the eastward main track all the way from Halpin to Maxon, thus completing the c.t.c. system for directing trains on both tracks between Halpin and Maxon.

The old mechanical machine at Maxon had 38 working levers to control 9 switches, 8 derails, 8 high signals and 7 dwarfs. The home signals were power-operated semaphores, complete route and detector locking being in service. Having decided to replace the interlocking with a low-voltage remote-control plant, certain revisions were made to simplify the track layout. The crossover between the westward main and an interchange track west of the crossing was moved outside the interlocking limits. Furthermore, with the approval of the Iowa Railroad Commission, the eight derails were eliminated. Thus, the new layout includes 4 switches, 10 high signals, 1 dwarf signal and the 2 electric locks.

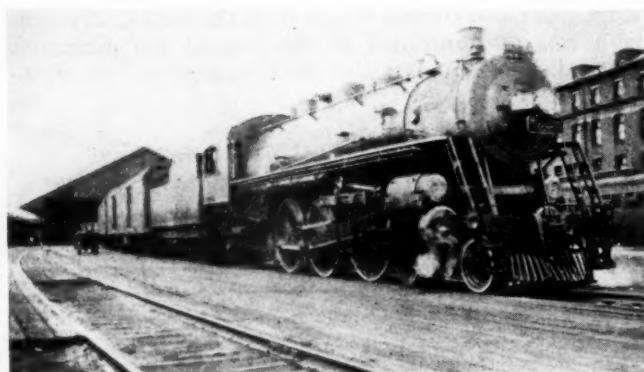
One electric switch lock is applied to each of the two hand-throw switch stands on the transfer track between the C. B. & Q. westward main and the M. & St. L. The locks are the General Railway Signal Company's Type-9A and are controlled by a two-position lever. The top-post-mechanism semaphore-type high signals formerly used in the mechanical plant, were retained for the new installation. Power-operated semaphores were installed for the dwarf or restricting-speed signals, and, as most of these are mounted low on the mast, the same type of mechanism was used. The switch machines are the General Railway Signal Company's Type-5D, with dual control and equipped for operation on 20 volts d-c.

The Control Machine

The control machine in the Albia station is the G.R.S. Company's c.t.c. desk-type machine. This machine is 18 in. long, 14 in. high and 5 in. deep, and has two two-position switch levers, four three-position signal levers and one two-position electric switch-lock lever. Each switch lever has two light indications, normal and reverse; each signal lever has three light indications, right, normal and reverse; and the electric lock lever has two light indications, locked and unlocked. The light indications are controlled from the field and hold their indications continuously, the indication agreeing with the position of the lever.

This installation has contributed to the efficient operation of trains in this territory. The remote control of the Maxon layout, and the centralization, under one operator, of the control over the traffic on the entire territory, have reduced the delays formerly occasioned by train orders, and have facilitated train movements on the fairly heavy grades in this territory, as well as serving the Albia station and the movements to and from the Des Moines branch.

* * *



The Boston & Maine's "Flying Yankee" at Portland, Me.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended February 10 totaled 572,504 cars, an increase of 8,406 cars as compared with the week before, 67,841 cars as compared with the corresponding week of last year and 10,969 cars as compared with 1932. Live stock, merchandise and grain showed decreases as compared with the week before, while all commodity classifications except coal and live stock showed increases as compared with last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, February 10, 1934

Districts	1934	1933	1932
Eastern	131,551	119,261	126,813
Allegheny	110,697	93,731	112,118
Pocahontas	44,041	40,885	37,623
Southern	92,200	82,307	86,706
Northwestern	64,854	50,704	64,482
Central Western	80,661	74,427	85,195
Southwestern	48,500	43,348	48,598
Total Western Districts	194,015	168,479	198,275
Total All Roads	572,504	504,663	561,535
Commodities			
Grain and Grain Products	31,259	21,533	32,023
Live Stock	13,729	15,734	18,754
Coal	138,466	148,658	110,916
Coke	10,117	7,370	5,676
Forest Products	21,331	12,344	19,747
Ore	2,596	2,097	2,853
Merchandise L.C.L.	160,296	154,109	186,569
Miscellaneous	194,710	142,818	184,997
February 10	572,504	504,663	561,535
February 3	564,098	486,059	573,923
January 27	561,566	475,292	560,343
January 20	560,430	499,554	562,101
January 13	555,627	509,893	572,649
Cumulative total, 6 weeks	3,314,164	2,914,930	3,402,229

Car Loading in Canada

Car loadings in Canada for the week ended February 10 totaled 40,595 cars, an increase over the previous week of 1,052 cars, and the index number rose from 69.31 to 70.40. The increase over the corresponding week of last year was 9,904 cars, or 32 per cent. Coal and coke loadings were lighter than in 1933, but all other commodities were heavier. Thus far this year loadings of grain, live stock, coke, lumber, pulpwood, pulp and paper, other forest products and ore have been ahead of both 1933 and 1932.

Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:	
February 10, 1934	40,595
February 3, 1934	39,543
January 27, 1934	40,171
February 11, 1933	30,691
Cumulative Totals for Canada:	
February 10, 1934	236,845
February 11, 1933	186,397
February 13, 1932	242,061

THE INDIANAPOLIS UNION RAILWAY COMPANY has been awarded the achievement cup by the Smoke Abatement League of Indianapolis, Ind., for making the best record of any railroad in the city in the past year. The line's record was 0.86 per cent violation or 8.6 violations recorded in every 1,000 observations. The Pennsylvania was second with 8.8 violations and the Cleveland, Cincinnati, Chicago & St. Louis, which won the cup for the month of December, was third.

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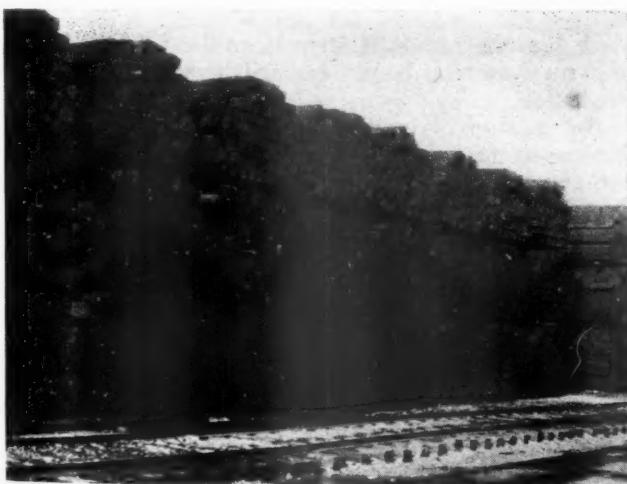
*Pr

Wood Preservers Write Rules for Storing Lumber

Would correct methods of piling and handling ties and lumber in yards to reduce losses from decay and poor seasoning

RECOGNIZING that savings in lumber buying can often be offset by uneconomical methods of handling lumber after purchase, and also that ties and lumber can decay or spoil in other ways in storage as well as in service, a committee of the American Wood Preservers' Association has recently prepared a report on the operation of facilities for tie and timber treatment, in which the approved methods of handling ties and lumber in yards before and after chemical treatment are summarized and emphasis placed on the need for their wider observance in lumber-yard operation.*

In the judgment of the committee, ties are probably the most easily handled of all forest products, by reason of their comparative uniformity in size and length. For this reason the stacks can be made the same size, and stacking practice is more or less uniform wherever ties are handled. Some minor variations are practiced, but usually ties are stacked on decay-resisting foundations,



Treated Ties Stacked in Bundles with Cranes

sometimes creosoted sill ties or treated timbers raised from 18 in. to 24 in. off the ground. The one-in-eight or German style of piling seems to be used more than the two-in-eight method, with the height of the pile governed by local conditions.

Arrangement of Yards

Yards should be kept free of weeds and rotting wood to guard against infection, and fire lanes should be maintained. The piles should be separated by from three to five feet to facilitate seasoning. In some cases, old T-rails are used for foundations. These foundations are set on creosoted ties or blocks or, in some cases, on concrete blocks. Such a foundation is suitable for ties but not for heavier material because the width of the



The One-on-Eight Method of Stacking Ties

bearing is not great enough to keep the bottom layers from being cut by the foundation strips. As a rule, treated ties are shipped when treated, but when they must be stored they are usually stored in bundles, as they are lifted from the trams by a crane, or in close piles if taken from the trams by manual labor.

Pole Protection

Poles, because of the diversity in lengths and sizes, are probably the most difficult material to handle in storage. Every size and length must be piled separately, and careful provision made for protection against decay while stored. They require treated foundations well off the ground and treated strips between consecutive layers. Where untreated strips are used, there is danger of strip rot at the point of contact with the untreated pole. With the use of treated strips, this danger is largely eliminated. A 4-in. by 4-in. or 4-in. by 6-in. spreader strip is used, except in some cases where small treated poles are substituted for the square



Short Poles Stacked Crosswise of the Track

*Presented at the convention of the American Wood-Preservers' Association, at Houston, Texas, on January 23, 1934.

spreaders. Where poles are used for this purpose, the capacity of the stack is materially reduced.

With the shorter lengths of poles, the most desirable method of stacking in constricted yards is to pile them at right angles to the track, if the yard layout will allow this to be done without too much waste space. Where poles are stacked in this manner, it is possible to put several narrow piles in one stacking space. This enables the operator to maintain a better separation of poles that are received at intervals over a more or less extended period. It also avoids having the poles at



Treated Poles Stacked in Close Piles

the bottom of the pile partly seasoned while the poles at the top of the pile are green. The smaller the pile, the better is the control over the seasoning.

Long piles are usually piled parallel to the track, partly because of the saving in yard space and partly for the reason that with the usual length of boom it is not possible to turn them without slowing down the stacking operation. Since the longer lengths are not usually carried in as large quantities as the shorter lengths, the problem of proper piling for seasoning is not as acute.

Pretreated poles are usually stacked in the same manner as the untreated material because it is desirable to season them as much as possible before the final treatment. Treated poles are usually stacked in cross piles without spreader strips or, if in open piles, with the poles between layers.

Except in the rare instances where plants have a stationary framing machine to which poles are brought,

most poles are framed in the yard by hand or by portable machines, just prior to loading on the trams for treatment. Facilities and sufficient framing-yard space for this is important so that the work can be done economically. In right-angle stacking, a space for framing can be left between to serve two piles.

Cedar poles are usually stacked parallel to the track without spreader strips. This method does not allow the poles to season as rapidly as when spreader strips are used, since it holds moisture in the pile. Since cedar in its untreated state has a comparatively high resistance to decay, there is no danger of infection in the short time that it is held for seasoning. Treated foundations and clean yards should be provided as for the other classes of poles.

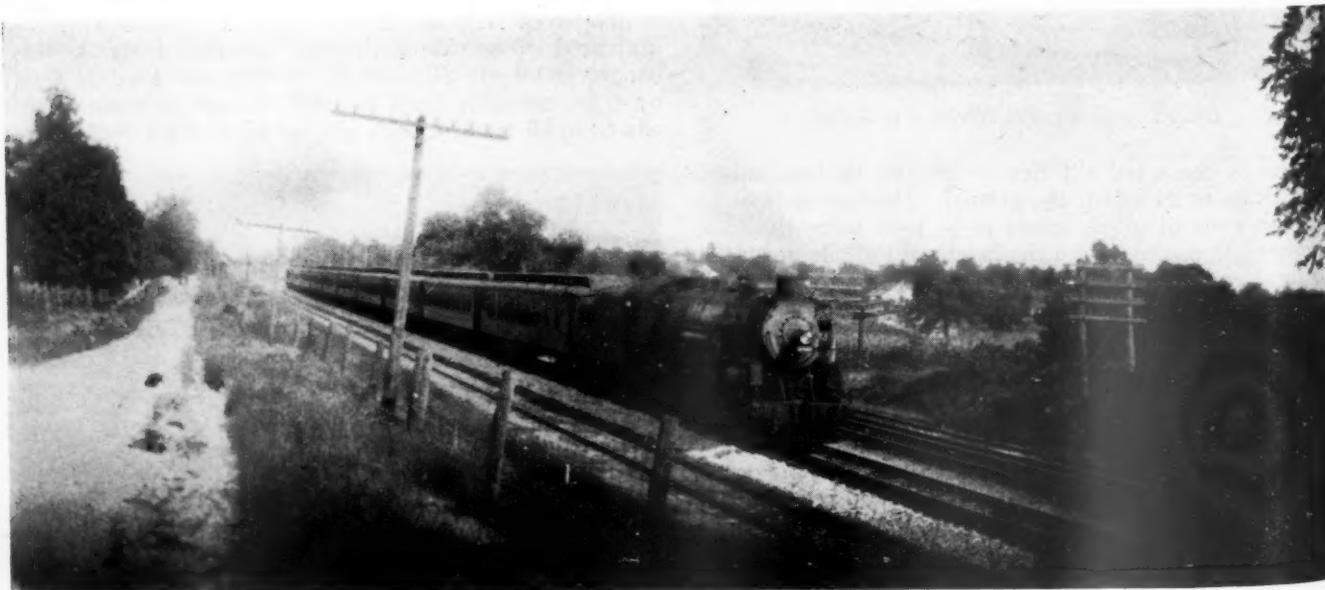
Storing Lumber and Timbers

The stacking of lumber and square timbers is not practiced as extensively as the stacking of poles, piling and ties. Timbers of this type are usually produced and brought into the plant on orders and treated and shipped as soon as received. If the lumber is stacked for seasoning, the same precautions should be observed as for the round timber and ties. They should be stacked on treated or non-decaying foundations and treated spreader strips should be used between layers. Without such strips, "strip rot" will occur.

It is a good plan to strip all material of this type when it is put into the stack, regardless of how short a time it is expected to be kept on hand. The additional cost is negligible and it is not always possible to estimate accurately the time that it will have to be held in the yard. One- and two-inch spreader strips are usually used, but the two-inch strip is to be preferred, more uniform seasoning being obtained because of the better circulation.

The roofing of lumber piles will eliminate much of the loss from warping and checking. It is a practice not generally followed, but the advantage is obvious. Roofing is generally put on with rejected material that is available around the plant, being merely laid on top of the lumber pile. It is possible, however, that some special provision for roofing lumber piles might be profitable and economical.

* * * *



On the New York Central near Waterloo, Ind.

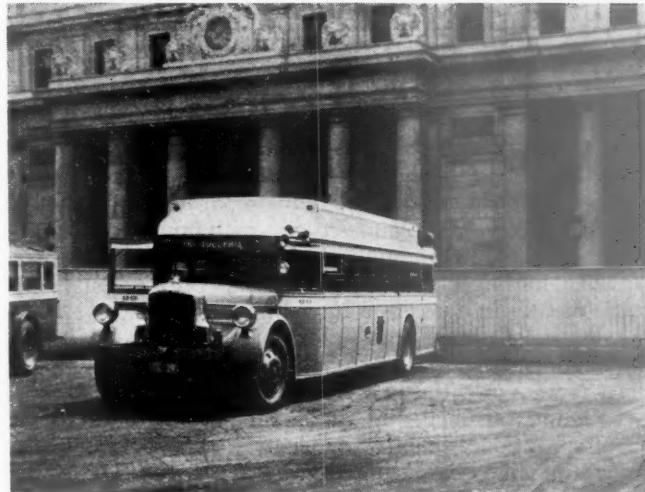
Motor Transport Section

Bus Service Co-ordinated by Reading and Pennsylvania

Begin joint operation of New York-Philadelphia and New York-Reading-Harrisburg routes—Economy and better service result

COMPETITION ceased and co-ordination began on February 1 in the case of the motor coach service operated by the Pennsylvania, the Reading and the Central of New Jersey between New York and Philadelphia, Pa., and between New York, Allentown, Pa., Reading and Harrisburg. This move is in line with the trend of recent years, which has been toward less rivalry and more co-operation between railway motor coach subsidiaries.

For several years, competition on the two routes mentioned, both heavily traveled, has been especially keen, not only between the buses of railroad ownership but also between those and the buses of independent companies. The Reading Transportation Company, highway subsidiary of the Reading, operated on its own account and on behalf of the Jersey Central Transportation Company, highway subsidiary of the Central of New Jersey, a highly developed bus service over both routes, competitive not only with independent bus services but also with motor coach schedules operated by the Pennsylvania Greyhound Lines, motor coach operating affiliate of the Pennsylvania. The schedules of the two companies, virtually on hourly bases throughout the day and night over the densely populated New York-Philadelphia route, and somewhat less frequently on the New York-Reading-Harrisburg line, practically duplicated each other, departure and arrival times of the two companies being in many cases nearly identical. Be-



Pennsylvania Greyhound Motor Coaches Operate Most of the New York-Philadelphia Runs

tween New York and Philadelphia, for example, the Pennsylvania and the Reading-Jersey Central, respectively, ran 20 and 12 round-trip motor coach schedules daily. Under the present arrangement, however, a number of schedules have been abandoned by both companies, but others have been added, and the current operations are so arranged as substantially to increase the frequency of the service, while eliminating the duplication between the schedules of the two companies.

A notable feature of the co-ordinated motor coach service is that the Pennsylvania Greyhound Lines, on the basis of the division of schedules agreed upon, is made the dominant factor in the handling of motor coach traffic between New York and Philadelphia, while the Reading-Jersey Central transportation companies occupy a like position in the New York-Reading-Harrisburg territory. Although terminals are used jointly and tickets for transportation by the buses of the two companies between the affected points are honored interchangeably, each company is maintaining its own identity and continues to operate its own equipment, none of the latter being pooled.

Under the new joint schedules, 29 motor coach runs in each direction daily are operated between New York and Philadelphia, instead of the total of 32 previously operated by the two companies. However, on account of the elimination of duplicate schedules, the traveling public



Reading Equipment Handles the Bulk of the Traffic between New York and Harrisburg

CO-ORDINATED
BUS SERVICE
 BETWEEN
PHILADELPHIA and NEW YORK
 Effective February 1, 1934
 VIA
Reading - Jersey Central
 Transportation Companies
 AND
Greyhound Lines

Each Way 29 TRIPS Every Day

Tickets of both Companies will be interchangeably accepted

CHANGE IN NEW YORK TERMINALS
 Arrival and departure at New York will be changed from
 Dixie Bus Terminal to:
CAPITAL GREYHOUND TERMINAL | PENN. MOTORCOACH TERMINAL
 51st St. at 8th Ave. 242 West 34th St.

Stops in Newark will be made at the Public Service Terminal and in Elizabeth at 200 North Broad St.

Complete information may be obtained from Agents and Bus operators

Extraordinary Schedule Frequency Marks the New Joint Service between New York and Philadelphia

actually has the benefit of 9 additional departure times daily. Intervals of only 30 min. separate the departure times between 8 a. m. and 7 p. m., with hourly departures from 7 p. m. to midnight and 3 additional departures between midnight and 8 a. m. The railway buses are consequently in a position to compete much more strongly with independent companies for the heavy bus traffic moving over the route.

In New York, the two stations served are the Capitol Greyhound terminal and the Pennsylvania motor coach terminal, the Reading-Jersey Central transportation companies having discontinued service at the Dixie bus terminal from which their New York buses previously started. In Philadelphia, the Broad Street station of the Pennsylvania is the principal terminal served, although most inbound buses at Philadelphia and all outbound buses at that point also stop at the Reading terminal. In fact, the latter is the first station served in

CO-ORDINATED
BUS SERVICE
 BETWEEN
HARRISBURG and NEW YORK
 Effective February 1, 1934
 VIA
Reading - Jersey Central
 Transportation Companies
 AND
Greyhound Lines

INCREASED SERVICE

13	8	9
Round Trips between ALLENSTOWN and NEW YORK	Round Trips between READING and NEW YORK	Round Trips between HARRISBURG and NEW YORK

Tickets of both Companies will be interchangeably accepted

CHANGE IN NEW YORK TERMINALS
 Arrival and departure at New York will be changed from
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Complete information may be obtained from Agents and Bus operators

Announcement of the Improved New York-Harrisburg Service

Philadelphia by all New York buses involved in the joint service.

Between New York and Harrisburg, the new schedules provide 9 trips in each direction daily, compared to the total of 8, partially duplicative, formerly operated by the two companies. Between New York and Reading, there are now 8 round-trip schedules, the same as before, but the 14 present round-trip schedules between New York and Allentown represent an improvement of the old service, in which total daily round-trip schedules numbered 11.

Nearly hourly service is provided between New York and Allentown between 6 a. m. and 5 p. m. with three additional schedules during the evening. The through runs to Reading and Harrisburg are grouped to give several departures from New York in the morning, in the early afternoon and in the evening. In all cases, duplicate departure times have been eliminated and the remaining schedules are conveniently spaced.

On the New York-Harrisburg line, on account of the situation with respect to local franchises, the Greyhound buses, all operated in through service to the West, carry interstate passengers only, while the local service, with certain restrictions, is taken care of by the buses of the Reading and the Jersey Central. Taken together, the co-ordinated transportation substantially strengthens the position of the two lines in the New York-Harrisburg territory.

Of the 29 daily round trips now being operated by the two companies between New York and Philadelphia, 4 are operated by the Reading Transportation Company and the remaining 25 by the Pennsylvania Greyhound Lines. The Reading Transportation Company schedules are so arranged, with departures from Philadelphia generally in the morning and departures from New York at noon or after, that four pieces of equipment can be dispatched conveniently to handle all schedules, each making one round trip from Philadelphia to New York and return daily. On the New York-Harrisburg line, five of the daily round-trip schedules between New York and Harrisburg are operated by the Pennsylvania Greyhound Lines, while the remaining four round trips are handled by the Reading Transportation Company. This company also handles the additional round trips which extend from New York only as far as Reading as well as the local runs to Allentown.

The benefits to be derived from the operation of these two routes on a joint basis are two-fold. The public benefits from the increased frequency of the service, which is substantial on both the New York-Philadelphia and the New York-Reading-Harrisburg routes. At the same time, the Reading-Jersey Central transportation companies will effect considerable savings in operating expenses because of the reduction in daily bus-miles operated, resulting from the elimination of certain schedules. For example, the 12 round trips daily between New York and Philadelphia, formerly operated by the Reading-Jersey Central transportation companies, at 190 miles per round trip, involved the operation of 2,280 bus-miles per day. Under the present co-ordinated schedule, with the Reading-Jersey Central transportation companies operating only 4 round trips between New York and Philadelphia, the regular service will involve only 760 bus-miles per day. Consequently, these companies are eliminating 1,520 bus-miles per day on the New York-Philadelphia route. This is offset to only a slight extent by the additional service, involving 400 daily bus-miles, newly provided on the New York-Harrisburg line. While there is actually an increase of 1,000 bus-miles per day in the operations of the Pennsylvania Greyhound Lines, this is partially offset by the

four previous round-trip schedules now taken over by the Reading-Jersey Central transportation companies, so that the competitive position of the former is strengthened at reduced expense.

Another Instance of Co-ordination

This is not the first instance in which the Pennsylvania Greyhound Lines and the Reading Transportation Company have co-ordinated their motor coach services to their mutual benefit. During the last four winters, economy without impairment of service has been accomplished by the pooling of operations between Philadelphia and Atlantic City, N. J. During recent months, as in the three previous winters, eight round trips daily have been operated by the two companies jointly on this line, half of the mileage being run by the Reading Transportation Company and half by the Pennsylvania Greyhound Lines. Previously, each company had operated eight round trips daily between Philadelphia and the seashore, so that, under the co-ordinated arrangement, each company has saved four round trips, or a total of 480 bus-miles, per day, while the public has had the same service as before.

The new co-ordinated service between New York and Philadelphia and between New York, Reading and Harrisburg is expected to prove as successful and beneficial as the joint service between Philadelphia and Atlantic City. It does not go as far as the latter service with respect to equalization of mileage and other joint arrangements, but it furnishes an improved service at minimum expense by eliminating competition.

Traffic Increases Result from Storedoor Service

RECENT reports from the East, the Southwest and the Pacific Coast indicate that the provision of storedoor collection and delivery service for l. c. l. freight by railways in those territories is proving effective in increasing the amount of the merchandise freight busi-

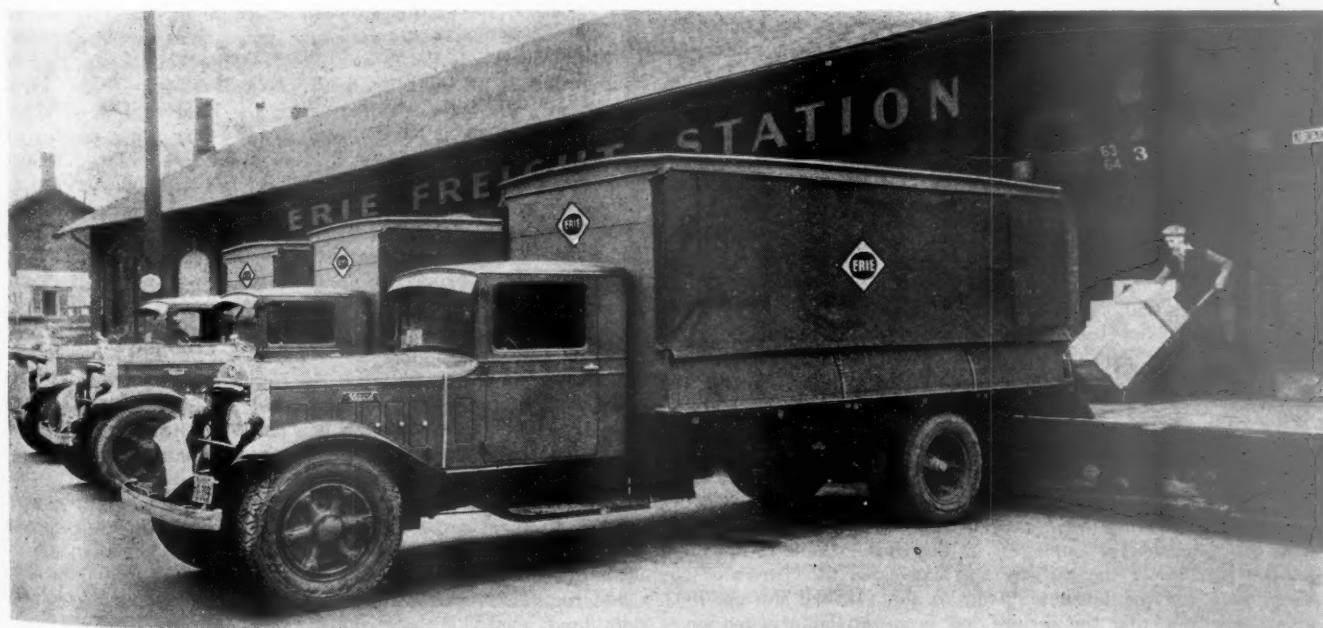
ness handled by them. The indications are that the increase in traffic recorded not only reflect the recovery in general business but also are a result of the recovery by the railways of traffic which had been taken from them by highway competitors. Where the pick-up and delivery service has recently been established, the additional freight is more impressive from the standpoint of percentage increases, but on the lines where the storedoor service has been in effect for several years, the volume of traffic handled, including that recovered from highway competitors, has become substantial.

In the East, the Erie, which inaugurated a collection and delivery service for l. c. l. freight on December 1, 1933, is currently enjoying a substantial increase in

L.C.L. Merchandise Billed Outbound by Missouri, Kansas & Texas Transportation Company, in Pounds; Year 1933 Compared with 1932

	1933	1932	Increase or Decrease
January	3,486,133	3,641,637	155,504 Dec.
February	3,664,943	3,433,034	231,909 Inc.
March	4,681,757	4,011,665	670,092 Inc.
April	5,071,437	4,270,143	801,294 Inc.
May	5,784,466	4,380,035	1,404,431 Inc.
June	5,903,715	4,564,162	1,339,553 Inc.
July	6,501,096	3,648,592	2,852,504 Inc.
August	7,189,883	4,919,714	2,270,169 Inc.
September	7,698,310	5,359,856	2,338,454 Inc.
October	7,314,388	4,962,530	2,351,858 Inc.
November	7,038,558	4,324,251	2,714,307 Inc.
December	5,428,717	3,133,837	2,294,880 Inc.
Total	69,763,403	50,649,456	19,113,947 Inc., or 38 per cent.

business. The growth of the pick-up and delivery traffic during December and January, the initial two months of this service, was steady and especially marked in the second month. In January, the number of shipments handled under the pick-up and delivery tariff represented an increase of 84 per cent over those handled in the previous month, while the weight of shipments in January was 103 per cent in excess of that received in December. A check of the source of the increased traffic handled in January has not been completed, but a similar check made of the traffic in December showed that 30.1 per cent of the l. c. l. freight handled in the collection and delivery service was freight which had not been merely transferred from the former l. c. l. service to the new one, but was new business, recovered from highway competitors. Further increases in the l. c. l.



Motor Trucks Used by the Erie in Its Collection and Delivery Service Are Helping to Increase L.C.L. Freight Traffic

business of the Erie are expected to result from the intensive advertising campaign which is now under way.

On the Pacific Coast, reports from the Southern Pacific, which first offered pick-up and delivery service several years ago, indicate that the volume of traffic now handled by motor transport subsidiaries of the railway has reached an impressive level. From the small beginnings of the relatively recent past, the Pacific Motor Transport Company, operating in the territory of the Pacific System, and the Southern Pacific Transport Company, operating in the territory of the Texas and Louisiana lines, have so developed their business that last year more than 250,000 tons of l. c. l. freight were handled under the pick-up and delivery tariffs of these subsidiaries.

From the Southwest come reports of the successful year which was enjoyed in 1933 by the M. K. & T. Transportation Company, subsidiary of the Missouri-Kansas-Texas, which handles l. c. l. freight, including pick-up and delivery service, for the railway in Texas. The gain in the tonnage of merchandise freight handled by the transportation company during 1933 over 1932

was 38 per cent. Comparing last year with the previous year, month by month, there was a gain in traffic for each month except one, January, and a gain of 2,000,000 lb. per month during the last six months of the year. The total tonnage billed by the transportation company during 1933 was 69,763,403 lb., as compared to 50,649,456 lb. during 1932. The business of the transportation company last year represented an increase of 74 per cent over 1931, when 40,009,244 lb. of freight was handled.

Estimates of the revenues of the transportation company last year, based upon the actual figures for the first 10 months and upon the tonnage figures for the last 2 months, indicate that the gross revenue for the year reached a total slightly in excess of \$400,000, or an increase of about \$70,000 over 1932. The fact that collection and delivery service was given on freight handled by the transportation company is considered by officers of the railway to be largely responsible for the transportation company's success.

Traffic statistics of the Missouri, Kansas & Texas Transportation Company for 1933 and 1932 are shown in the accompanying tabulation.

Odds and Ends . . .

Untimely Death

The Indian whose portrait adorns the Great Northern calendar for 1934 unhappily has not lived to enjoy his new fame. He died shortly after the first of the year, only a day or two before the calendar which had been mailed to him reached the reservation post office.

Active Demand for Box Cars

Business may have been a little dull, until recently, for manufacturers of freight cars, but the demand for one type of box car has been consistently active, depression or no depression. Ever since the War, the yearning on the part of returned American soldiers for replicas of French box cars of the "40 and 8" variety has been unabated. In fact, it is said that approximately 100 reproductions of the tiny French box cars are constructed each year in the United States from blueprints furnished by the French State Railways. What purpose these cars serve during the greater part of the year is an open question, but during the annual conventions of the American Legion they are much in evidence.

Echo of the Past

F. A. Hogberg, land and tax commissioner of the Illinois Central, had one of the surprises of his life recently when he received a letter, dated December 27, 1933, which read as follows: "Referring to your advertisement attached, I should like to secure 40 acres of this land at \$5 an acre. It should be within commuting distance from Chicago so that I may use the new \$19,000,000 station, if and when. I prefer a tract on or near Lake Michigan and with some virgin timber." Turning to the advertisement attached to the letter, Mr. Hogberg found that it was an announcement to the effect that the Illinois Central had 1,200,000 acres of land for sale at low prices. The advertisement was published in "Godey's Lady's Book" in April, 1862.

Unusual New Year Greeting

The most striking New Year greeting which we have seen is that addressed by the employees of the Gulf, Mobile & Northern to the patrons of the railway. It expresses the thanks of the employees for the business given to the railroad during 1933, expresses hope that the service has been satisfactory and gives assurance that business received in the future will receive the same quick, careful handling as in the past. The most notable

part of the greeting is the dozen or so personal signatures of G. M. & N. employees, from I. B. Tigrett, president, down to W. F. Griffin, flagman, W. D. Hahn, Jr., rate clerk, and Sue Crary, stenographer. Other signatures on the greeting are those of switchmen, conductors, engineers, machinists, section foremen, draftsmen, agents, operators, and so on. Even Settles Hockett, section laborer, who could not write his name, did the next best thing and made his mark. Unless we are badly mistaken, that G. M. & N. New Year greeting received a good deal closer attention from those who saw it than the beautifully decorated and highly embossed messages which are more commonly received.

Railroad Historical Exhibit

An exhibition of historical railroad pictures and models is now in progress in the east balcony of the Grand Central terminal in New York. Sponsored by the Railway & Locomotive Historical Society, the exhibition will continue through April. The society itself makes an interesting story. It is the first organization in America to devote itself to the collection, preservation and exhibition of all kinds of historical railroad material. Incorporated in 1921, with headquarters in the Baker Library, Harvard Business School, it has enjoyed steadily increasing prestige and membership. A growing collection of material is on public exhibition in the museum at the society's headquarters. Local chapters have been organized in some of the larger cities and the New York chapter, at the request of the New York Central, has loaned material and assisted in the preparation of the exhibition now in progress.

Ice Solves Engineering Problem

There may be an idea for the engineering departments of the railways in the fact that ice played an important part in the solution of a bridge building problem in California recently. In erecting the 61-ton steel span of the Russian River bridge, the trusses were tied together on the approaches by transverse floor beams and rolled, in three sections, over the completed trestle spans to their respective positions, where they were supported by falsework. Then the sections were riveted together, cribbing was placed on the concrete piers under the two end floor beams and the falsework was removed, leaving the span 3½ ft. above its final level. By the aid of jacks the steelwork was then lowered, but when it got to within 6 in. of its resting place, it was discovered that the jacks could no longer be used because

there was not enough clearance between the beams and the piers. This caused a good deal of head-scratching among those in charge of the job until someone had the bright idea that ice could be used. From a local ice company, six 400-lb. cakes of ice, each measuring approximately 10½ in. by 21 in. by 56 in., were ordered. When received on the first delivery the following morning, these blocks were laid with the broad side down in groups of three on the piers, directly beneath the end floor beams. To better distribute the load, planking was inserted between the ice and the relatively narrow flanges of the beams. Then the entire weight of the structure was transferred from the jacks to the ice. Twenty-five hours elapsed before the ice had melted sufficiently to bring the span down the remaining six inches, and in that interval the builders were able to place pedestals and rockers and to do the other necessary work. Each 400-lb. cake of ice had to bear a load of 20,000 lb.

Record Ticket Redemption?

The Southern Pacific recently made refund of \$1 on a railroad ticket, and believes that it thereby set a record for the length of time elapsing between the purchase of the ticket and its redemption. This particular ticket was purchased nearly 64 years ago by Frank Elder, 79 year old pioneer resident of Lincoln, Cal., who kept it through the years and finally offered it for refund only as an oddity. The ticket covered transportation from Rocklin, Cal., to Lincoln, a distance of 14 miles, and was purchased on July 10, 1870, from the Central Pacific, now a part of the Southern Pacific. Mr. Elder explained that he did not use the ticket because he met a friend and rode with him in a buggy. It was explained to him that there was no obligation for the Southern Pacific to redeem the ticket, but its re-appearance after so many years aroused much interest and the refund was good-naturedly approved.

Co-ordinator Overlooked a Bet

The passenger ballot distributed by the Federal Co-ordinator of Transportation to secure the opinions of the multitude on various features of railway passenger service, was pretty complete, as those who have seen it know, but at least one good chance to secure some pointed comments was overlooked. Nowhere in the ballot was there a place for travelers to express themselves on the matter of rough handling of passenger cars, especially of sleeping cars which have to be switched after passengers have retired. This notable omission has caused comment in no less distinguished a circle than the faculty of the Graduate School of Business Administration at Harvard university. One of the members of the faculty was reminded that Arnold Bennett, after a visit to the United States, referred in caustic terms to the rough treatment he had received at the hands of locomotive enginemen and advised railroad managements to send their enginemen to England where they might learn how to start and stop trains gently. "In England," said Bennett, "the trains start with the 'insidiousness of a bad habit.'"

Devotion to Duty

Belatedly, we nominate for the title of "most loyal employee" the Pullman Company's Porter Rafael San Miguel of the Nuevo Laredo district. Porter San Miguel distinguished himself in the days following the hurricane on the Gulf of Mexico in September of last year. His car, the "Villa Blanca," was attached to a National Railways of Mexico train which left San Luis Potosi, Mex., on September 23, for Tampico. When about 15 miles from the latter city, the train was halted by the flood which resulted from the hurricane, the water standing four feet deep over the rails and steadily rising. Many difficulties were encountered, but the train was finally backed to Ebano, from which point passengers and crew were removed from the train by a gasoline launch. It was decided that someone must stay to guard the equipment and Porter San Miguel was elected. For 25 days he stayed on the car, subsisting upon corn and dry beans left him by the rescuers. So well was his job done that on October 21, when the "Villa Blanca" arrived at Mexico City, a check showed that the only articles missing from the car were one pillow, one mattress and two blankets which had been requisitioned for a sick passenger.

Communications . . .

More About Dean Richmond

WASHINGTON, D. C.

TO THE EDITOR:

Dean Richmond [referred to on page 22 of the *Railway Age* of January 6] was president of the New York Central at the time of his death in Buffalo, N. Y. His body, accompanied by the members of the family, was carried on a special train from Buffalo to Batavia on August 28, while the special train for which the ticket in question was issued carried (quoting from newspapers of the day) "a committee of the board of trade, members of the Common Council, delegates of the Irish societies and representatives of the express and telegraph companies, also of the principal business and manufacturing houses of Buffalo."

Ex-President Filmore and a distinguished company of public and railroad officials attended the funeral at 2 p. m., August 30, at Batavia, N. Y.

Resolutions passed by the directors of the New York Central said in part, "Although he never held public office, he nevertheless was a public man. He possessed the rare faculty of comprehending the public mind and governing his actions accordingly."

CLYDE H. FREED,
Chief Clerk, Ticket Office, Union Station.

How the Railroads Can Cultivate Goodwill

BROOKLINE, MASS.

TO THE EDITOR:

Not long ago President E. S. French of the Boston & Maine presented a gold watch, suitably inscribed, to an eleven-year old, freckled face boy, living in a small country town. It seems that this boy, after witnessing a truck stall on a B. & M. crossing and knowing that a train was due, was the only one of a group, including some grown men, who had the presence of mind to set a signal against the train and thus avoid a collision. Hence the gift of the gold watch with the event inscribed therein. But that was not all. For one day, the boy and his mother were the guests of the Boston & Maine. Arrangements were made and the boy was brought to Boston on the locomotive drawing one of the local trains. After the presentation of the watch he was shown through the terminal facilities in Boston and then he and his mother were sent home on the "Pine Tree Limited" —a special stop being made for the purpose of letting them off at their destination.

A few days afterward, in conversation with one of the officials of that road, I asked which he thought the boy enjoyed the most—the watch or the ride on the locomotive? His reply was to the effect that he had the watch as tangible evidence of his deed and the ride was something he could look back upon. Now it may be for a time that the watch will only be carried when the boy is dressed in his "Sunday best" and its value will diminish. On the other hand, I regard the Boston & Maine as having made an excellent investment in good will.

The boys of today are no different at heart than the boys of yesterday. To them, just the same as there was to us, there is something fascinating about the hiss of steam, the smell of soft coal smoke and the roar of the train. Many of our officials would be surprised by the knowledge that some of these youngsters have about locomotives and railroads. It seems to me that here is a fertile field that needs cultivation and one that would pay big dividends in the future. Furthermore, the stage is practically set if the railroad officials will take but a slight advantage of it.

I believe that through the Boy Scouts of America the right seeds in the matter of transportation could be planted and the yield from this crop, over a given period of time, would be

enormous. No one can address such a gathering of boys and young men without feeling their thirst and their desire to know more about the ins and outs of railroading. The speaker will never face a more enthusiastic audience and his subjects need only be of the simplest nature. The turning of the thoughts of these boys in the proper channel will be the means of making our people more railroad-minded—something this country is in dire need of today.

In this day when nearly every other industry is taking the opportunity of presenting its products to the American people, it seems to me that the American railways should present their story. Their silence will only hurt their cause. Truth, properly implanted in the minds of youth, is eternal. The subject would be unending. With a better knowledge of their affairs in the public mind, there is no doubt that the railroads would receive fairer play at the hands of the public.

The railroads have only one commodity to sell—transportation. In the past only sporadic attempts have been made by certain companies to sell this commodity other than in the customary take it or leave it fashion. The railroads, if they are to continue, must dress up their commodity and make it attractive. The automobile manufacturers have certainly succeeded with their products. There is no reason why the railroads cannot do the same, if they will. The opportunity lies with the American boy—let the railroads take advantage of it.

CHAS. E. FISHER,
President, Railway & Locomotive Historical Society.

Why Not Make Railway Reading Rooms More Appealing?

LOS ANGELES, CAL.

TO THE EDITOR:

Occasionally, the statement is made to effect that railroad men do not read; the inference being that men employed on the railroads do not have much, if any, scholastic inclination.

I do not agree with this view. While, undoubtedly, some of them do not read much, particularly about matters of serious import, I am convinced from observation that the great majority of them do read interesting and informative subjects when they have the opportunity. Train and enginemen, for example, who are absent from home when on duty, do not have ready access to educational and interesting reading matter. This is a lack that should be remedied by the management, especially so in these times of so much discussion in connection with relations between the railroads, the government, and the public.

In many of the railroad clubs and railroad Y. M. C. A. reading rooms throughout the United States little attention is given by the secretarial force to the problem of maintaining and making readily available such meager assortment of books as may have been installed.

In many reading rooms such books as there are to be found are secluded in remote sections of the rooms. Many of them are discolored with age and if the observer tries to determine subject and authorship it is necessary to carry them to the windows or lighted areas of the room. In many instances, such magazines as there are may be found scattered about in mutilated condition.

It is suggested that a competent representative of the passenger traffic department inspect all railroad reading rooms at periodical intervals and observe conditions, reporting to the management on their observations and arranging for the placing of not only such magazines as may be thought desirable for general reading purposes, but also educational booklets or literature having to do with the solicitation efforts of the traffic departments, passenger and freight. Also, they might well arrange for installation of such protective covering or adjustable binders as will obviate mutilation and discoloring.

Such books as are now in possession of the reading rooms should be overhauled and restored to presentable condition. Where the collection is meager and consists, possibly, of early editions, now perhaps revised, books of later dates and modern findings should be added. There are many inexpensive books now before the general public, some of them of such educational and informative character as would be of value not only to the

railroad man but to the railroad also by virtue of the impress made upon the employees who read them. A notable example is "The American Railroad in Laboratory," issued by the American Railway Association in 1933, with an introduction by Edward Hungerford. One or more copies of this book, protectively bound, should be on the table of all railroad reading rooms. On page 10 Mr. Hungerford states, in effect, that the book is intended for both public information and educational use among all classes of railroad men. He states that much of the criticism of the railroads is due in part to failure of the railroads to keep the general public fully advised as to what is constantly being done in the various avenues of research and betterment by the railroads.

The collection of books, whatever its extent, should be moved out to a conspicuous place in the reading room where good lighting facility obtains.

If space permits, the reading room should be segregated from the general assembly room; although the former should be so situated that it will be exposed for convenient entry and such entry invitingly marked. All elements of suggestion in appropriate and discreet ways should be adopted to encourage the employees to read.

Perhaps, too, a method could be formulated whereby the employees, particularly trainmen and enginemen, could be permitted to draw books from the reading room for home use. Many of these men live in districts far distant from the public library and their working hours may be such as do not permit them ready access to the public library.

If "hiding a light under a bushel," whether spiritual or material, is contrary to wisdom it would appear in sequence that hiding a book collection in an obscured location distant from daylight is also contrary thereto.

EDWIN SWERGAL.

New Books . . .

Air Conditioning. By James A. Moyer, state director of university extension in Massachusetts, and Raymond U. Fitts, assistant professor of mechanical engineering, Tufts College. 390 pages, 6 in. by 9 in., illustrated. Published by the McGraw-Hill Book Company, Inc., New York. Price, \$4.

The principles of air-conditioning, ventilation requirements, air filtration, cooling methods, refrigeration for air conditioning, properties of refrigerators, types of equipment, temperature and humidity control, design of systems and auxiliary applications are dealt with specifically in this book. Railroad passenger cars, office buildings and factories are among the practical applications discussed. While there is nothing new or precise in the chapter on railway passenger cars for the man who has been following this development for the past two years, the book contains much of value on the underlying principles and the ramifications of air conditioning.

Vocational Guidance in Engineering Lines. Published by The Mack Printing Company, Easton, Pa. 521 pages, 6 in. by 9 in. Bound in green cloth. Price, \$2.50.

The main object of this book is to obtain, for the technical institutions of the United States of America, students of the best possible type and to exclude therefrom, by frank discouragement, most of the usual unfit applicants for admission. It aims to produce a complete exposition of the subject of vocational guidance in engineering, at least to the extent of covering all the ground necessary to effect the purpose of its initiator and sponsor, the American Association of Engineers, who several years ago appointed a Committee on Vocational Guidance in Engineering Lines to search for ways directly to enlighten men aspiring to be engineers. The committee, under the chairmanship of Dr. J. A. L. Waddell, has thus compiled this book, each chapter of which has been contributed by a man preeminent in his line of engineering. Each describes both the general and special requirements for his individual branch of the profession, outlining the nature of such work and pointing out the compensation to be expected. The chapters are simple and direct and free from highly technical or elaborate literary features.

NEWS

M. J. Gormley Addresses New England Traffic Club

Replies to criticisms of the rivalry and the lack of co-operation between railroads

M. J. Gormley, president of the American Railway Association, in an address before the Traffic Club of New England at Boston on February 19, replied to some of the criticisms of the railroads on the ground of lack of co-operation and too much competition between them. He pointed out that the railroads of the country are today unanimous on their legislative program and that they have for many years unselfishly contributed to the elimination of car shortages through a high degree of co-operation with the Car Service Division of the American Railway Association. He also reminded his hearers that there are frequently dissenting votes among the eleven members of the Interstate Commerce Commission and the nine members of the Supreme Court of the United States and said that the railroads today show as great a degree of resourcefulness and co-operation with each other as industry generally. Referring to what has been said as to competition among the railroads for traffic, Mr. Gormley said there has been just as large an amount of competition between railroads in the cutting of costs.

Urging that all forms of transportation should be treated alike, all regulated and none subsidized, Mr. Gormley referred to "the very peculiar situation in that the principal opponents of the suggested regulation are those who manufacture the vehicles used in transportation," and said that "to my mind they have no place in the question of regulation and should eliminate themselves from that picture." It may also well be time for the motor group, he said, to wonder whether they are serving their best interests by opposing proper regulation of highway transport, because their principal revenue comes from the sale of private cars and the operator of the private automobile is frequently heard to criticize the number of trucks met upon the highway and their size.

Referring to the demands of the railroad labor organizations that there should be a reduction in the bonded indebtedness of the railroads, he asked how this could be accomplished without the earnings necessary to bring it about. "Furthermore," he asked, "how can you accomplish it when it is considered along with the other proposals with which the railroads are confronted in Congress today, with the demands of labor for a six-hour day,

full-crew law, a pension law and train-limit law, all of which would increase operating expenses of the railroads enormously? It might be sufficient to say that the six-hour law alone (and this six-hour day of course with eight hours pay) according to the Interstate Commerce Commission would cost the railroads between five and six hundred million dollars annually. That is the estimate of the Interstate Commerce Commission, not that of the railroads. The latter is much higher, and we believe correctly so. What the various other things mentioned would cost is not definitely known, but we are safe in saying that the railroad bill by these various measures would be increased at least a billion dollars a year. Now if it is difficult under present conditions to find money with which to retire bonds, where in heaven's name can it ever be found to pay the bill for all these things if they ever became laws?

"We believe in this respect that the employes of the railroads should approach these matters from an economic standpoint which ultimately will be in their own interest, and that is that the cost of transportation must continually be reduced to the greatest possible extent, first, to retain to the railroads such of the traffic of the country as belongs to the railroads, and secondly by reduced costs to create necessity for increased transportation. If transportation demands increase, employment will increase, and that should be the principal interest of the railroad employes from a long time standpoint and that is the standpoint from which they should approach it, instead of striving for possible temporary benefits.

"There should be no question about the policy of permitting the railroads to lay up reserves, or in other words 'put on a little fat,' during times of prosperity, in order that they may maintain more employment during periods of depression. A recognition of these facts on the part of all interested will some day, we hope soon, solve this railroad puzzle."

Give the railroads today an equality in transportation regulation with other forms of transportation, and increase their traffic by 20 to 25 per cent, and all other major problems relating to the railroads will disappear into thin air.

New Industries on Illinois Central

A total of 112 industries were located on the Illinois Central in 1933, an increase of 55 per cent over the number of companies established on its lines in 1932. The new firms are distributed among 72 cities and towns. They represent a capital investment of \$7,009,500 and employment for 3,773 workers.

Lively Debate on Railways Staged in Canadian House

Dr. Manion charges Liberals with pork barrel expenditures on C. N. R.; J. L. Ralston replies

Charges by Hon. Robert J. Manion, Minister of Railways, that the Liberals when in office in 1929 and just before the 1930 federal election committed Canada to a \$250,000,000 pre-election pork barrel through proposed expenditure on the Canadian National, and a rejoinder by Hon. James L. Ralston, a former Liberal cabinet minister, that in the nine years from 1921 to 1930 the aggregate deficit of the Canadian National under the Liberal regime was \$132,000,000, while in three years preceding Liberal rule and in 1931 the aggregate deficit of the road piled up by the Conservatives was \$219,000,000, featured the latter part of the two weeks' debate on the Speech from the Throne in the House of Commons at Ottawa.

Dr. Manion, in his speech, which dealt with a number of questions, said in part regarding the railway problem:

"When one looks back to the year 1903, a time when the Liberal party held office, and learns that up to that time only one transcontinental railway existed across the Dominion of Canada, and when one realizes that before they left office in 1911 they originated the second and third transcontinental railways, one may in these days know the reason they have not so much to say. They are responsible for bringing about the duplication of railways which exists in Canada at the present time.

"Had hon. gentlemen had the vision they could have connected up the Grand Trunk in the east with the Canadian Northern in the west, and we would have had a second transcontinental and probably no present-day railway problems. When we remember that in connection with the third transcontinental the then leader of the Liberal party took the attitude that a railway from Moncton to the Pacific coast would cost \$13,000,000, and when we couple with that the fact that the real cost of the railway—not to the Pacific coast at all, but from Moncton to Winnipeg—was \$173,000,000, we cannot help but believe that hon. members opposite are the ones to blame for the railway problem which exists in Canada to-day.

"When we come up to a more recent date, to 1929, a pre-election year, and learn that the right hon. gentleman and his party either permitted or forced the late management of the Canadian National to make commitments of \$250,000,000 on hotels at

Halifax and other places, on steamships, terminals, the purchasing of branch railway lines and the building of others—I say, when we realize that they permitted or forced the management to make those commitments amounting to \$250,000,000 in a pre-election year, when they passed around the railway pork barrel from coast to coast, we know that they should leave the railway question alone. We have had to clean up that mess, and we have cleaned it up.

"I say here, without fear of contradiction, that anybody who knows what he is talking about will realize that we have saved the people of Canada about \$15,000,000 per year in extravagant management which obtained under the late government, but which does not obtain to-day. I say, further, that the Canadian National railways are just as efficient to-day as they were when hon. members opposite went out of power. If I have ever in my life done any good work for my country it was when I helped to clean up that mess."

After referring to the speeches made in the House around 1912 by Mr. Bennett, now Prime Minister, who at that time urged a third transcontinental railway, and after comparing that with recent denunciations by the Prime Minister for the Liberals' previous advocacy of a second and third transcontinental road, Col. Ralston said, in part:

"My right hon. friend was in a quite different frame of mind in 1912 regarding the desirability of a third transcontinental railway. Hon. gentlemen know the history of that road after the act was passed in 1912 and the assistance given by the Conservative government whereby the road was extended to Vancouver—\$45,000,000 guaranteed in 1914 and the transcontinental nature of the Canadian Northern recognized. Then the Drayton-Acworth report came, and in 1917 the Dominion of Canada paid \$10,000,000 for worthless stock of the Canadian Northern under my hon. friends opposite. That ought to be enough as far as the three transcontinental roads were concerned. My friends were for a second road in 1904; they completed the third road in 1912 and then bought it in 1917.

"So far ownership, now amalgamation. My hon. friend talks about this great conglomeration of roads which was foisted on them and which caused such a serious increase in the debt and such heavy inroads on the expenditure of Canada.

"What I say is that, although the Canadian National Railways Act was passed in 1919, the then government did not declare the act, but ran this bundle of roads in a disjointed fashion until 1922, when under the King government, Sir Henry Thornton was put in charge. My right hon. friend seems to think that all the expenditure was incurred under the Liberal administration. Does he forget that they themselves assumed an indebtedness of \$1,700,000,000 on account of these roads? Let him compare that sum with the \$461,000,000 which he says was spent under Liberal administration. Let me tell him now what happened with regard to the administration of these roads under governments of which he was a supporter and under Liberal governments.

"First take the amount earned by this

system of roads and available for all interest; from 1919 to 1921 there was nothing whatever available, but there was an average deficit of \$22,000,000 yearly. From 1922 to 1930 there was an average surplus of \$24,000,000 per annum. For 1931 there was a deficit again of \$5,000,000; I have not the figures for 1932. Secondly, I make the same comparison, after paying interest to the public; from 1919 to 1921 the annual deficit was \$53,000,000. From 1922 to 1930 the annual deficit was only \$15,000,000, whereas, as I say, in the regime of my hon. friends opposite, in the three years they had it before 1921, the deficit had been \$53,000,000, and in 1931 the deficit was \$60,000,000.

"To sum up, the total deficit in the management of this system of roads called the Canadian National, from 1919 to 1931, was \$351,000,000. In the nine years from 1922 to 1930, years of Liberal rule, the total deficit was \$132,000,000, while for the succeeding four years of Conservative rule from 1919 to 1921, and for 1931, there was a deficit of \$219,000,000."

Dr. Manion: "To keep the record straight, would the hon. gentleman just add that his government increased the interest charges by \$20,000,000 annually?"

Mr. Ralston: "Certainly I will, but I say that is a mere bagatelle compared to the seventeen hundred million of my hon. friends."

Dr. Manion: "The seventeen hundred million takes in the intercolonial and all the old railways."

Mr. Ralston: "Now my hon. friend is beginning to find out that a number of old roads were included. He is anxious to get out from under."

John Stevens Locomotive to Be Exhibited by Pennsylvania at Fair

The Pennsylvania will exhibit a full-sized replica of the "John Stevens," the first locomotive in America driven by steam

upon a track, in the dome of the Travel and Transport building at A Century of Progress Exposition in Chicago this year. The locomotive was built in 1825 and was named for its inventor, who operated it on a circular track on his estate at Hoboken, N. J. At the close of A Century of Progress this year, the locomotive will be turned over by the Pennsylvania to the Museum of Science and Industry in Chicago, where it will be displayed in the Hall of Transportation.

Annual Dinner of Traffic Club of Chicago

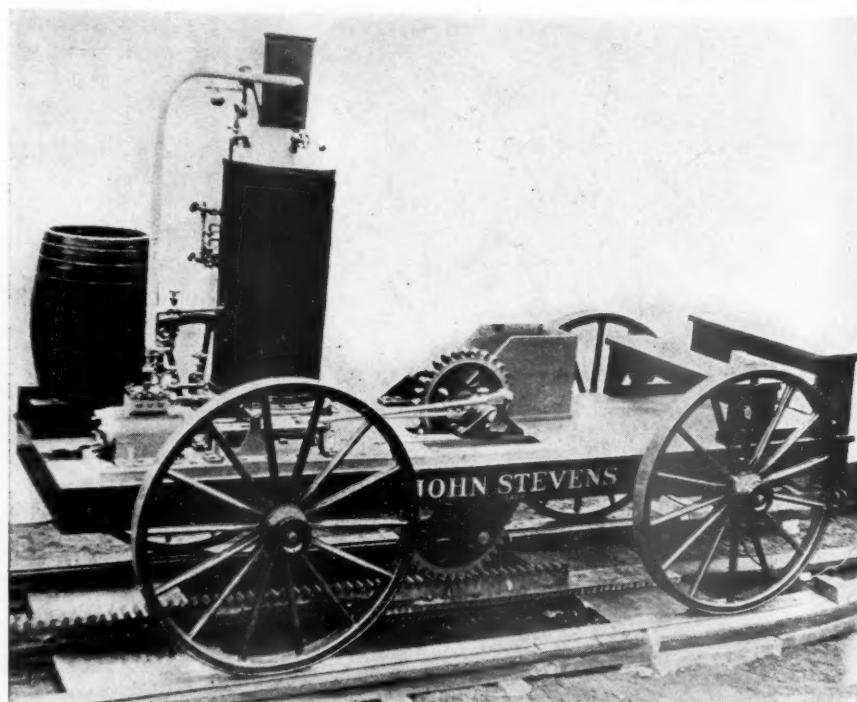
The twenty-seventh annual dinner of the Traffic Club of Chicago will be held at the Palmer House on March 1 as a tribute to the business leadership of Chicago. The speakers are John McKinlay, president of Marshall Field & Co., and Rev. George Craig Stewart, Episcopal bishop of Chicago. Mr. McKinlay will speak on the business man's philosophy.

President Inspects Union Pacific Streamlined Train

The Union Pacific's new streamlined train was placed on exhibition in Washington on February 15 and 16. On February 15 President Roosevelt and members of his staff inspected the train under the guidance of W. A. Harriman, chairman of the board, and C. R. Gray, president; and a large number of government officials, including Co-ordinator Eastman, were the guests of the railroad on a run to Baltimore and return.

Minnesota Plans Suits on Seven Roads

Suits against seven railroads, including the Chicago, Rock Island & Pacific, the Great Northern, the Chicago & North Western, the Chicago, Burlington & Quincy, the Illinois Central, the Duluth, South



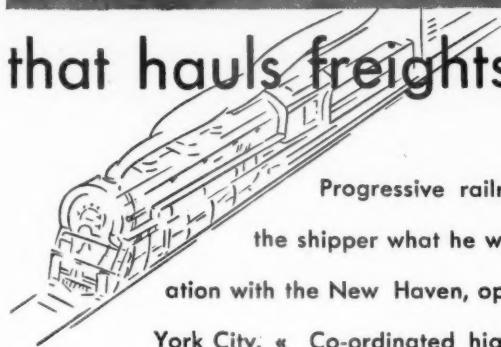
The John Stevens Built in 1825

LIMA LOCOMOTIVES

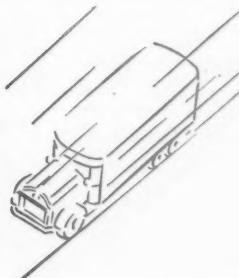


PROVIDE THE POWER

that hauls freights on passenger schedule



Progressive railroads are merchandisers of transportation service. They give the shipper what he wants. In line with this policy the Boston and Maine, in co-operation with the New Haven, operates a fast freight service between Portland, Me., and New York City. « Co-ordinated highway truck service to and from concentration points picks up freight in the afternoon, delivers it to the cities where "The Bullet" stops, and the next morning it is in the railroad yards in New York. The train provides over-night service to and from New York from practically all New England points. « Careful co-ordination and planning are an essential in such service, but equally important is adequate motive power. Old locomotives lack the sustained power output for such work. « Lima-built 2-8-4 type locomotives enable the Boston and Maine to maintain passenger speeds on this newest freight run—and do it day after day with dependability and economy. « More of these improvements in service are needed if the railroads are to defeat competition. This in turn requires modern Super-Power.



LIMA LOCOMOTIVE WORKS • Incorporated • LIMA • OHIO

Shore & Atlantic and the Green Bay & Western, are contemplated by the State of Minnesota in proceedings designed to clarify the taxation of railroads in that state, which has been unsettled by court findings in a suit filed and won by the Great Northern. The attorney general claims that the railroads are delinquent in the payment of the gross earnings tax, which, in Minnesota, is applied in lieu of all other taxes;

and he filed suit in St. Paul on February 16 against the Chicago, Rock Island & Pacific for the recovery of \$64,125 in taxes, penalties and interest. Summons and complaints have been served against the six other railroads.

The state expects to collect taxes on earnings from equipment rents received since 1925, the year in which the state supreme court ruled that taxes must be

paid on car rental credit balances only if earnings from that source were made in Minnesota. Railroad taxes have been paid in Minnesota for the past 20 years, according to a formula set up by the state, calling for the payment of five per cent of gross revenues earned within the state. The application of the tax as related to net equipment rental credits was confused by the decision in the Great Northern case.

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States *

Compiled from 149 Monthly Reports of Revenues and Expenses Representing 150 Class I Steam Railways

FOR THE MONTH OF DECEMBER, 1933 AND 1932

Item	United States		Eastern District		Southern District		Western District	
	1933	1932	1933	1932	1933	1932	1933	1932
Average number of miles operated	239,856.01	241,464.28	59,296.09	59,652.21	45,580.08	45,902.58	134,979.84	135,909.49
Revenues:								
Freight	\$191,666,980	\$188,093,070	\$82,158,689	\$82,645,597	\$39,322,880	\$39,242,683	\$70,185,411	\$66,175,790
Passenger	29,311,656	30,202,807	17,962,271	17,833,362	3,670,556	3,672,666	7,678,829	8,696,779
Mail	9,380,621	9,681,636	3,384,492	3,820,673	1,585,503	1,566,440	4,210,626	4,294,523
Express	4,222,998	4,227,461	1,540,679	1,566,772	890,566	793,076	1,791,753	1,867,613
All other transportation	5,586,448	5,831,744	3,004,606	3,362,091	567,497	489,923	2,014,345	1,979,730
Incidental	4,491,241	4,811,392	2,449,255	2,816,734	689,981	645,234	1,352,005	1,349,424
Joint facility—Cr.	855,812	709,405	222,826	212,520	267,209	121,853	365,777	375,032
Joint facility—Dr.	186,208	210,942	46,344	52,229	14,396	18,705	125,468	140,008
Railway operating revenues	245,329,548	243,346,573	110,876,474	112,234,520	46,979,796	46,513,170	87,473,278	84,598,883
Expenses:								
Maintenance of way and structures	23,039,842	21,227,046	9,438,133	8,704,201	4,218,079	4,054,349	9,383,630	8,468,496
Maintenance of equipment	50,464,771	50,453,810	23,382,822	24,373,269	9,201,439	8,795,916	17,880,510	17,284,625
Traffic	7,288,667	7,314,291	2,661,263	2,661,440	1,396,708	1,298,364	3,230,696	3,354,487
Transportation	92,369,230	92,390,626	43,055,066	43,055,449	15,124,900	15,285,432	33,589,264	34,049,745
Miscellaneous operations	2,180,143	2,084,575	1,140,576	1,077,165	240,812	237,021	798,755	770,389
General	12,177,537	12,599,042	5,406,976	5,474,415	2,069,309	2,153,348	4,701,252	4,971,279
Transportation for investment—Cr.	438,824	29,508	129,616	120,575	54,697	27,237	254,511	d 118,304
Railway operating expenses	187,081,366	186,039,882	85,555,220	85,225,364	32,196,550	31,797,193	69,329,596	69,017,325
Net revenue from railway operations	58,248,182	57,306,691	25,321,254	27,009,156	14,783,246	14,715,977	18,143,682	15,581,558
Railway tax accruals	11,235,146	15,565,652	5,584,976	7,257,738	2,069,997	2,665,034	3,580,173	5,642,880
Uncollectible railway revenues	155,750	171,907	46,005	105,206	37,174	30,391	72,571	36,310
Railway operating income	46,857,286	41,569,132	19,690,273	19,646,212	12,676,075	12,020,552	14,490,938	9,902,368
Equipment rents—Dr. balance	6,694,721	6,262,076	3,586,156	3,577,839	234,667	36,584	2,873,898	2,647,653
Joint facility rent — Dr. balance	2,398,686	3,002,162	1,569,313	2,182,852	245,238	298,575	584,135	520,735
Net railway operating income	37,763,879	32,304,894	14,534,804	13,885,521	12,196,170	11,685,393	11,032,905	6,733,980
Ratio of expenses to revenues (per cent)	76.26	76.45	77.16	75.94	68.53	68.36	79.26	81.58

FOR TWELVE MONTHS ENDED WITH DECEMBER, 1933 AND 1932

Average number of miles operated	240,743.93	241,672.59	59,454.97	59,709.35	45,719.81	46,052.47	135,569.15	135,910.77
Revenues:								
Freight	\$2,492,735,344	\$2,450,957,092	\$1,062,290,459	\$1,046,140,558	\$503,273,133	\$473,963,410	\$927,171,752	\$930,853,124
Passenger	329,341,854	377,095,373	197,408,634	225,130,185	38,850,879	42,840,334	93,082,341	109,124,854
Mail	91,870,400	97,161,711	35,929,516	38,452,994	15,787,060	16,357,515	40,153,830	42,351,202
Express	45,639,962	53,983,306	19,867,228	23,522,634	8,690,792	9,030,876	17,081,942	21,429,796
All other transportation	71,803,265	78,065,884	39,578,480	44,741,605	6,458,142	6,366,874	25,766,643	26,957,405
Incidental	57,766,944	63,307,000	31,965,152	36,575,368	8,270,103	8,436,521	17,531,689	18,295,111
Joint facility—Cr.	8,550,020	8,979,452	2,712,253	2,965,471	1,957,364	1,635,663	3,880,403	4,378,318
Joint facility—Dr.	2,261,605	2,660,727	618,554	728,162	224,258	222,759	1,418,793	1,709,806
Railway operating revenues	3,095,446,190	3,126,889,091	1,389,133,168	1,416,800,653	583,063,215	558,408,434	1,123,249,807	1,151,680,004
Expenses:								
Maintenance of way and structures	322,335,022	351,220,552	129,428,126	139,710,036	63,062,332	68,939,227	129,844,564	142,571,289
Maintenance of equipment	598,704,469	618,944,243	270,474,584	280,874,904	113,060,932	112,775,423	215,168,953	225,293,916
Traffic	85,824,207	96,230,852	32,033,102	36,635,235	16,240,814	17,749,212	37,550,291	41,846,405
Transportation	1,078,005,535	1,157,809,345	501,470,255	539,705,828	180,571,261	188,734,296	395,964,019	429,369,221
Miscellaneous operations	23,546,136	27,684,034	11,885,742	13,752,554	2,655,299	3,135,835	9,005,095	10,795,645
General	143,852,644	155,579,408	62,267,027	67,358,534	24,506,533	26,764,764	57,079,084	61,456,110
Transportation for investment—Cr.	2,949,263	3,924,639	1,013,203	1,482,092	346,558	307,327	1,589,502	2,135,220
Railway operating expenses	2,249,318,750	2,403,543,795	1,006,545,633	1,076,554,999	399,750,613	417,791,430	843,022,504	909,197,366
Net revenue from railway operations	846,127,440	723,345,296	382,587,535	340,245,654	183,312,602	140,617,004	280,227,303	242,482,638
Railway tax accruals	249,539,965	275,171,860	104,462,847	116,867,390	47,209,249	50,305,131	97,867,869	107,999,339
Uncollectible railway revenues	1,208,372	1,027,418	520,001	437,514	163,257	181,311	525,114	408,593
Railway operating income	595,379,103	447,146,018	277,604,687	222,940,750	135,940,096	90,130,562	181,834,320	134,074,706
Equipment rents—Dr. balance	85,029,433	85,162,856	44,033,518	43,431,628	4,213,583	3,224,425	36,782,332	38,506,803
Joint facility rent — Dr. balance	35,980,232	35,665,226	19,807,928	19,813,254	3,920,120	3,679,576	12,252,184	12,172,396
Net railway operating income	474,369,438	326,317,936	213,763,241	159,695,868	127,806,393	83,226,561	132,799,804	83,395,507
Ratio of expenses to revenues (per cent)	72.67	76.87	72.46	75.98	68.56	74.82	75.05	78.95

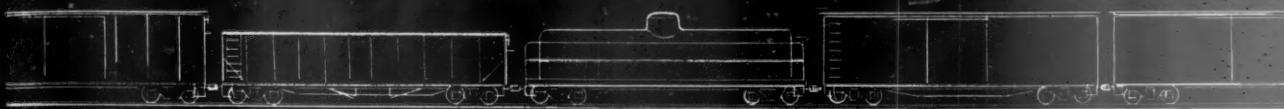
* Excludes switching and terminal companies. Statements prior to January, 1933, included switching and terminal companies.

d Deficit or other reverse items.

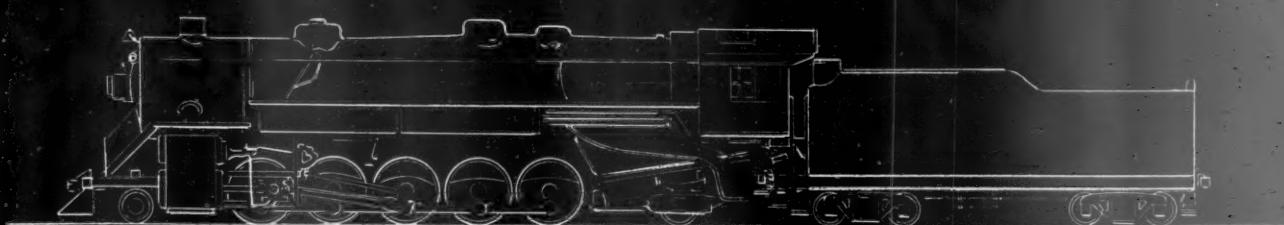
Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

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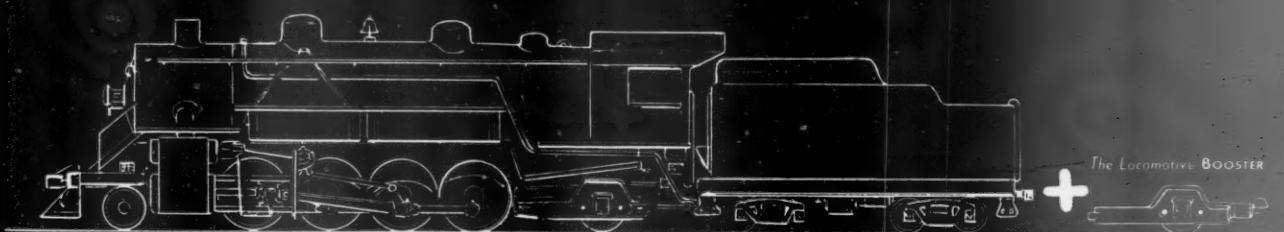
The Locomotive BOOSTER Gives Economy In Maintenance



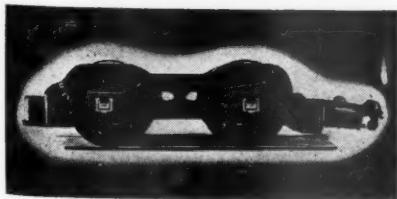
Here is a train to haul. 75,000 lbs. draw bar pull is needed to start it.



This big 2-10-2 has the required power but it is bigger than need be to haul the train once it is started.



This smaller 2-8-2 and The Locomotive Booster, working together will supply the needed starting power and once the train is under way the Booster becomes inoperative.



The lighter locomotive is competent to handle the train over the road at a lower operating cost and at a large economy in maintenance. It is more flexible.

Booster power is economical power. Incorporate The Locomotive Booster as an integral part of your new locomotives. It is necessary whether your business demands trains a mile and a half long or only half a mile as at present.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

MONTREAL

Safety Program for March

The committee on education, of the Signal Section, A. R. A., in its circular for the guidance of safety committees in March, devotes its attention mainly to accidents to children, no less than 1730 under 14 years old having been killed within 10 years while trespassing on railroad premises, and 2277 were seriously injured. And of persons between the ages of 14 and 21, in the same 10 years, 2652 were killed and 5496 seriously injured. Attention is called to the fact that the total injuries, fatal and non-fatal, in this class have increased since 1929, whereas in other classes of accidents there have been decreases.

Collisions in Spain and Italy

A press dispatch from Rome, February 19, reports a collision near Populonia, Italy, between a passenger train and a rail motor bus; 16 persons killed, 11 seriously injured. The motor bus, said to be propelled by a naphtha engine and with a capacity of 60 persons, was running at high speed. It is said to have been occupied by 48 persons.

At Villaneuva de la Reina, Spain, on February 20, a collision between a special train from Madrid and an express train from Seville is reported to have resulted in the death of nine persons and the serious injury of 22.

Bill To Amend Long-and-Short-Haul Clause

Representative Pettengill has introduced in the House a bill to amend the long-and-short-haul clause of Section 4 of the interstate commerce act by omitting the proviso inserted in the law by the 1920 legislation that "the commission shall not permit the establishment of any charge to or from the more distant point that is not reasonably compensatory for the service performed." This would restore the law to the form in which it was left by the amendments adopted in 1910, under which the Interstate Commerce Commission was given discretion to authorize carriers in special cases, after investigation, to charge less for longer than for shorter distances. The proviso adopted in 1920 had the effect of greatly reducing the number of authorizations granted by the commission.

Mobile & Ohio Employees Get 6½ Per Cent Wage Increase

The Mobile & Ohio, on March 7, will increase the wages of its employees 6½ per cent under authority granted the receivers of the railroad by Federal Judge Robert T. Ervin, the increase applying to all employees except executives. Following the placing of the railroad in receivership on June 3, 1932, wages of employees were reduced 10 per cent. In February, 1933, the employees voted to strike unless the wage question was settled and Ernest T. Norris, receiver for the railroad, at the conclusion of a final conference with representatives of the brotherhood, invoked the law governing wage disputes and submitted the case to the United States Board of Mediation. In November, after the matter had been before a board of mediation for two weeks and when no agreement was reached, a

strike vote was again taken and December 1 was set for a walk-out. President Roosevelt, on November 24, issued a proclamation creating an emergency board to investigate the dispute and hearings were begun on November 29.

Denver & Salt Lake Sues Moffat Tunnel Commission

The Denver & Salt Lake, on February 12, filed a suit in the federal district court at Denver against the Moffat Tunnel Commission, seeking \$350,000 damages which it stipulates is the amount paid by the railroad to remedy the faulty construction of the Moffat tunnel. The width, placement of timber, kind of timber and general construction are said to be faulty from an engineering standpoint while, in addition, it is charged that the commission failed to provide 4,294 ft. of concrete drainage conduit; to provide three refugee niches; to acquire, in certain instances, right of way for the connecting lines of railroad approaches to the tunnel; to apply gunite coating to 5,406 lin. ft. of the tunnel where exposure of the rock surface to the air would lead to sloughing of the rock, and to construct station buildings at either the east or west portal.

Club Meetings

The Toronto (Ont.) Railway Club will hold its next meeting at the Royal York Hotel, Toronto, on Friday evening, March 2. S. N. Wight, of the General Railway Signal Company, will speak on centralized traffic control.

The Northwest Car Men's Association, (St. Paul), will hold its next meeting at the Y. M. C. A. building, Minnesota Transfer, on Monday evening, March 5. George Johnson, chief clerk to M. C. B. (Northern Pacific), will present a paper on original record of repairs and A. R. A. billing.

The Indianapolis (Ind.) Car Inspection Association will hold its next meeting on Monday, March 5, at 7 p. m., at the Hotel Severin, Indianapolis. There will be a discussion of the interchange rules.

The Southern and Southwestern Railway Club will hold its next meeting at the Ansley Hotel, Atlanta, Ga., on Thursday, March 15, at 10 a. m. R. Tom Sawyer, of the American Locomotive Company, will present a paper on Diesel-Electric locomotives.

Express Service Will Be 95 Years Old on March 4

Railway express service in the United States will be 95 years old on March 4 and will observe its centennial on the same day in 1939, according to a recent statement of the Railway Express Agency. Historical records, the statement says, show that William H. Harnden, conductor on a pioneer New England railroad, gave birth to the personal service idea in express transportation, by carrying packages in his carpetbag between New York and Boston, Mass. Harnden's business grew so rapidly that he could employ others and had many competitors who laid the foundation of the several express companies of the pre-war era.

The Railway Express Agency, now owned by the principal railroads of the

country and operating over their 225,000 miles of lines, is the modern outgrowth of Harnden's idea. That company has offices in 23,000 principal cities and towns and handles well over fifty million shipments a year. In the maintenance of its collection and delivery of shipments at many of these points, it maintains the largest motor vehicle fleet under one management, comprising some 9,500 units.

A. R. E. A. Convention Program

Final arrangements have been practically completed for the thirty-fifth annual convention of the American Railway Engineering Association, which will be held on March 13 and 14 at the Palmer House, Chicago. The program follows:

Tuesday Morning

President's address, W. P. Wiltsee, chief engineer, Norfolk & Western.
Reports of secretary and treasurer.
Reports of Committees on:
Uniform General Contract Forms.
Yards and Terminals.
Rules and Organization.
Records and Accounts.
Roadway.

Tuesday Afternoon

Clearances.
Ballast.
Track.
Buildings.
Shops and Locomotive Terminals.
Maintenance of Way Work Equipment.
Waterproofing Railway Structures.

Tuesday Evening

Rail.
Stresses in Railroad Track.
Wednesday Morning

Ties.
Wood Preservation.
Water Service and Sanitation.
Signals and Interlocking.
Electricity.
Wooden Bridges and Trestles.
Masonry.

Wednesday Afternoon

Grade Crossings.
Rivers and Harbors.
Iron and Steel Structures.
Economics of Railway Location.
Economics of Railway Operation.
Economics of Railway Labor.
Standardization.

On Wednesday noon a luncheon will be served in the Red Lacquer room of the Palmer House for the members and guests of the A. R. E. A. at which Dr. A. A. Potter, dean of engineering at Purdue University, will give an address on "Research as Applied to Railroading."

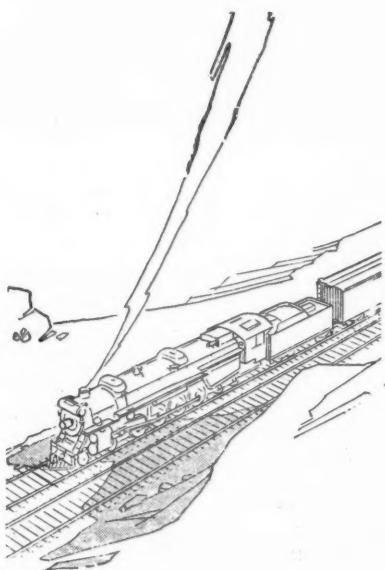
Station Doors Operated By Photo-Electric Cells

Doors which open automatically upon the approach of a person, and which remain open until he has passed through, have been installed in the Pennsylvania Station, New York, between the waiting room and the train concourse. It is desirable to have these doors closed during cold weather, and the automatic operation facilitates the movement of crowds through the station, and provides convenience, particularly to passengers carrying grips. The doors are opened upon the approach of a person from either direction, and although they may have started to close, they will reopen from any position upon the approach of a second person.

The doors are operated in pairs, and are caused to open by the interruption of a light beam shining on a Photronic photo-electric cell. There are guide rails extending out from each pair of doors to guide the approach of a person through the door. The light source is located in

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A Smooth-Running Arch Brick Service

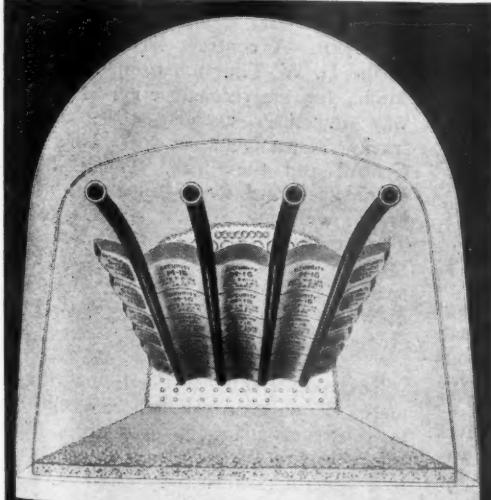


The splendid service from the smooth-running motor in your car is best appreciated when you see the trouble a balky motor can create. Only when trouble appears do you truly appreciate the service you have been getting.

So, too, with Arch Brick. The smooth functioning of American Arch Company who for 25 years have concentrated on Arch Brick supply has been accepted as a matter of course.

But many elements exclusive with American Arch Company are responsible for this service. The railroad background; the combustion knowledge; the years of Arch Brick study and design; the gradual perfection of a service of supply.

All these contribute to an Arch Brick service that only American Arch Company can furnish.



There's More To SECURITY ARCHES Than Just Brick

**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
INCORPORATED**

**Locomotive Combustion
Specialists** » » »

one of the uprights supporting the guide rail, and the photo-electric cell is located in the other; the distance between them is about 5 ft.

Interruption of the light beam operates a series of relays which, in turn, control the operation of an air engine which opens and closes the doors. The speed of opening is rapid, so that a person interrupting the light beam cannot reach the door before it is open. The rate of closing is so controlled that a person walking through will clear the second light beam before the door starts to close.

The photo-electric cells and relays were supplied by the Weston Electrical Instrument Corporation, Newark, N. J., and the doors and door-opening mechanism, by the Stanley Works, New Britain, Conn.

Western Lines to Give Low Rates for World's Fair

Passenger rates, ranging from two cents a mile for tickets good in all classes of cars with a 30-day return limit to one cent a mile for day-coach tickets sold at week-ends with return limits ranging from 10 to 14 days, will be placed in effect by western railways from June 1 to November 1, in anticipation of the re-opening of A Century of Progress Exposition at Chicago. These rates are lower on the average than those offered last year.

Round-trip tickets to Chicago good in all classes of cars will be offered at two cents a mile in each direction; return limit 30 days. From points in Louisiana and Texas, round-trip tickets good 16 days will be on sale at the rate of 1.8 cents per mile in each direction plus 25 cents.

Round-trip tickets to Chicago, with a 30-day limit, good in day coaches only will also be on sale on all western railways at 1.8 cents per mile in each direction, while round-trip tickets to Chicago, with a 15-day limit, good in day coaches only will be offered, except in the Southwest, at the rate of 1½ cents a mile in each direction. From the Southwest, round-trip day coach tickets, good 16 days, will be approximately 1½ cents a mile in each direction.

All the foregoing classes of tickets will be on sale at all times. On Friday, Saturday and Sunday of each week, except in certain limited territory, round-trip tickets to Chicago good in day coaches only will be offered at 1 cent a mile in each direction. These tickets will have return limits ranging from 10 to 14 days, depending upon the distance of the starting point from Chicago. In this connection, certain minimum fares not yet decided upon will be established for points only a short distance from Chicago.

Heavy Snow in New York and New England

New York city papers of Wednesday morning, February 21, were filled with news about what was called the worst snow storm since March, 1888; and the effects of the storm were felt seriously for 100 miles east of New York, in Connecticut and on Long Island; and to a lesser degree in New Jersey.

The storm began with rain, not cold, on Monday afternoon and gradually changed to snow with very low temperature by

Tuesday morning, the rain having converted the lower strata of the snow banks into ice. In New York city, the depth of snow was about eight inches; in New Haven, it was about 22 inches; in Springfield, Mass., somewhat deeper and on Long Island, considerably deeper.

In New York city, the thousands of office workers living in the suburbs were from 30 minutes to several hours late at their work, and all surface transportation was badly clogged. The extensive subway and elevated railroads, however, brought in enough workers to keep business going, though the stock exchange opened an hour behind time.

The most serious railroad delays were between New York and Boston, and most of the trouble was between South Norwalk, Conn., and Springfield, Mass. Most, or all, of the through New York-Boston trains, starting out on Monday night, were delayed for hours at stations along the line. Some of these delays were at small towns where the passengers had to put up with such accommodations as could be had at dwellings and small establishments. The New Haven annulled nearly all of its through trains on Tuesday forenoon, but suburban service west of Stamford was kept moving.

The New York, Westchester & Boston, suburban line to White Plains and Port Chester, suspended traffic for several hours. Most of the troubles on the railroads appear to have been due to frozen switches or trouble with signal wires or connections, and other things due to lack of preparation. East of New Haven, wires on poles were broken down in many places. The New Haven, for the first time this season had all of its eight plows and 38 flangers at work.

On the Long Island road large numbers of trains were annulled.

Alton Not Exempted from A. T. C. Order

The Interstate Commerce Commission, Division 6, Commissioners Eastman, McManamy and Lee, in a decision by Commissioner McManamy, issued on February 5, has denied the petition of the Alton for relief from the commission's order requiring automatic train control.

Under the order of June, 1922, the Alton has 114 miles of road, Chicago to Normal, Ill., equipped with automatic train stops of the intermittent magnetic induction type (National Safety Appliance Company); 25 passenger and 42 freight locomotives equipped. The order of January, 1924, was suspended as regards the Alton. The line in question, partly single-track, has semaphores, upper and lower quadrant and color-light signals, both 2-indication and 3-indication. On 64 miles, partly double-track and partly single, there are some signals without distant indications, but with overlaps. These latter are interspersed with the other signals, and this irregularity is held to be a feature subject to criticism.

The reasons for asking relief at this time are (1) favorable physical characteristics, (2) reduced density of traffic, (3) speeds limited to 60 miles an hour, (4) comparative freedom from accidents, (5) financial straits and (6) necessity for important rail

renewals and strengthening of three bridges.

The line is mostly level, but there are many curves, and fogs are prevalent during certain seasons. The commission cites criticisms which have been made by its inspectors. It was noted that passenger trains ran faster than 60 miles an hour, that limit having been established for the comfort of passengers, not because it was necessary for safety. While no collisions have occurred since A. T. C. was put in, there were four prior to 1926, and, notwithstanding the diminution in the number of trains, it cannot be definitely stated that similar collisions would not have occurred if there had been no A. T. C. The company estimates a probable saving of \$14,000 a year by abandonment, and also other less tangible savings, but these arguments do not weigh heavily with the commission. Locomotives of the Baltimore & Ohio are moved over this line from Chicago to Bloomington for repairs, at the rate of about seven a month, and these have to be towed; if it were not for the A. T. C., they could be used to haul trains.

A main argument against the road's petition is that this is an important passenger carrying line; present dullness of traffic may not continue. The company does not propose cab signals or anything else to partly take the place of A. T. C.

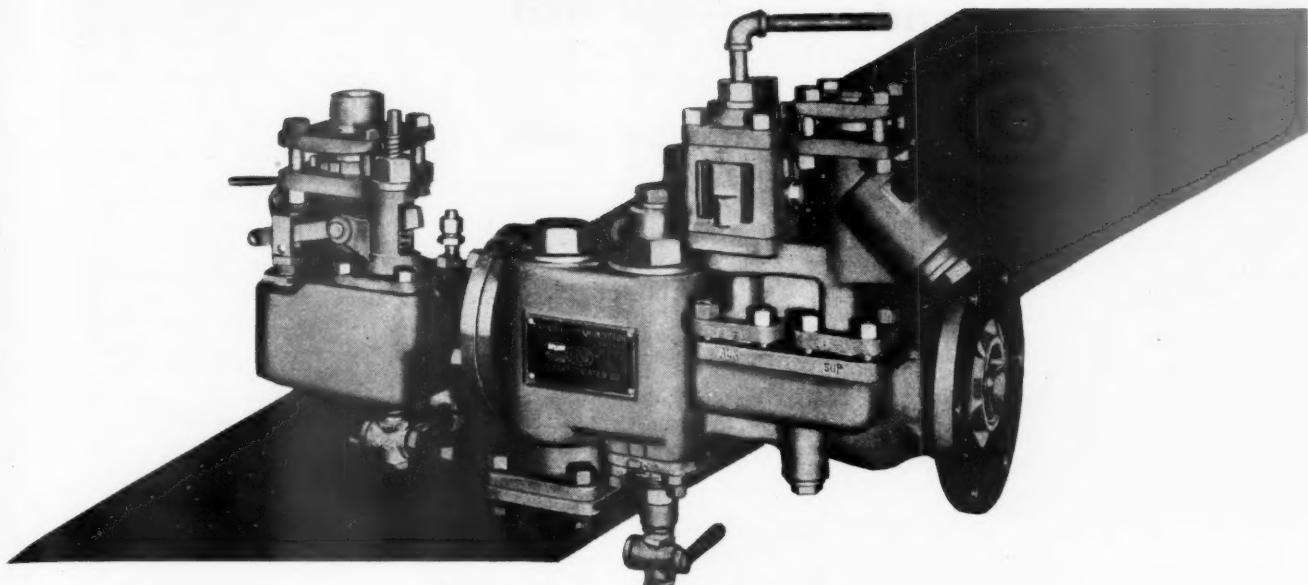
In view of these circumstances, and as the company admits that A. T. C. serves a useful purpose, the petition is denied.

Construction

NEW YORK CENTRAL-GRAND TRUNK WESTERN.—A contract has been awarded to the D. W. Thurston Company, Detroit, Mich., for the reconstruction of two subway structures carrying three and two tracks respectively of the New York Central and the Grand Trunk Western over Woodward avenue, Detroit, incident to the widening of that street to 120 ft. The structures will have 90-ft. deck girder roadway spans and two 15-ft. sidewalk spans. The cost will be about \$550,000 all of which will be paid by the federal government.

NORTHERN PACIFIC.—The Interstate Commerce Commission has authorized this road to construct a branch line from Odair, Wash. on its Washington Central branch, in a general northeasterly direction to the site of the proposed Grand Coulee dam on the Columbia river, about 28.5 miles in Grant county, Wash. See also *Railway Age* of November 11, 1933, page 708.

PUBLIC WORKS ADMINISTRATION.—The U. S. Engineer office at Kansas City, Mo., has awarded a contract to the Massman Construction Company, Kansas City, for the construction of a bridge across the Missouri river on the 14-mile line which the government is building from Wiota, Mont., on the Great Northern to the site of the Ft. Peck dam, a public works project. The same company will also construct a highway subway on this line.



An Injector Boiler Feed for Increased Economy and Capacity

UTILIZING a portion of the exhaust steam to preheat the boiler feed is an established principle in modern locomotive design for increasing fuel and water economy, and sustained boiler capacity.

The Elesco exhaust steam injector, above illustrated, produces the advantages of exhaust-steam feed water heating through kinetic energy or the injector principle since it uses exhaust steam, when available, to preheat the feed water and deliver it to the boiler.

Dependability as a boiler feed is assured as it operates automatically on either live or exhaust steam. But it always operates on exhaust steam when available, thereby assuring the advantages of returning a portion of the waste heat to the boiler.



THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street
NEW YORK



Peoples Gas Building
CHICAGO

A-845

Canada: The Superheater Company, Limited, Montreal

Superheaters

American Throttles

Feed Water Heaters

Superheated Steam Pyrometers

Exhaust Steam Injectors

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Equipment and Supplies

Public Works Administration Loans to Railroads

Allotment of \$4,666,000 for a loan to the Delaware, Lackawanna & Western that will create 5,496,000 man-hours of employment in manufacturing new freight cars and locomotives to be purchased by the company and rebuilding cars and locomotives that it now owns was announced on February 16 by Public Works Administrator Harold L. Ickes. The Lackawanna will rebuild 986 box cars and 20 engines in its own shops at Scranton, Pennsylvania, at an estimated cost of \$966,000. This work will create 307,000 man-hours of additional employment for its shopmen, according to the company's application. About 200 men will be called back to work. The rebuilding program calls for converting 986 wood-sheathed box cars into all-steel cars and converting 20 road engines into switching engines. The schedule of work calls for turning out 100 rebuilt box cars and 1 rebuilt locomotive per month.

The new equipment, to be purchased, comprises 20 steam locomotives, 5 oil-electric locomotives and 500 fifty-ton steel hopper cars. It is estimated that production of raw and finished materials and all the processes of manufacture and assembly will create 5,050,000 man-hours of both direct and indirect employment in about 20 states.

The Lackawanna has filed its application to the Interstate Commerce Commission for authorization of the expenditure.

The Erie has applied to the commission for approval of the expenditure and for authority to issue \$623,000 of ten-year serial notes to the P.W.A. for the conversion of 750 gondola cars into hopper cars.

The Public Works Administration on February 20 announced the signing of the contract for the loan of \$5,028,208 to the New York, Chicago & St. Louis for new equipment.

The New York, Ontario & Western has applied to the Public Works Administration for a loan of \$235,000 for the purchase of 4,725 tons of 90 pound rail at a cost of \$171,872 and 1,751 tons of fastenings, at a cost of \$63,128, and has applied to the Interstate Commerce Commission for authority for the expenditure and for the issuance of ten-year 4 per cent promissory notes for the amount.

The Erie has applied to the Interstate Commerce Commission for authority for the expenditure of \$2,048,498, which has been allotted to it by the P. W. A. for the purchase of 29,987 tons of first quality rail, 2,134 tons of second quality rail, and 12,340 tons of track materials. It has also applied for authority to issue notes for the amount and to pledge as collateral therefor its equity in collateral previously pledged with the Reconstruction Finance Corporation.

LOCOMOTIVES

THE LEHIGH VALLEY is inquiring for some 4-8-4 type locomotives.

FREIGHT CARS

THE GULF, MOBILE & NORTHERN is inquiring for 50 gondola cars and from 150 to 200 box cars, all of 50 tons' capacity.

PASSENGER CARS

THE BOSTON & MAINE is inquiring for 20 passenger coaches.

THE UNION PACIFIC has placed an order with the Pullman Car & Manufacturing Corporation for the installation of mechanical air-conditioning apparatus in 22 observation and 16 dining cars.

THE CHESAPEAKE & OHIO has placed an order with the Pullman Car & Manufacturing Corporation for the installation of mechanical air-conditioning apparatus in four imperial lounge cars.

THE SEABOARD AIR LINE has placed an order with the Pullman Car & Manufacturing Corporation for the installation of mechanical air-conditioning apparatus in two dining and one parlor cars. This is in addition to the order for the installation of mechanical air-conditioning apparatus in 15 cars reported in the *Railway Age* of January 27.

IRON AND STEEL

THE ATCHISON, TOPEKA & SANTA FE is inquiring for 250 tons of structural steel for a bridge at Los Angeles, Cal.

THE LOUISIANA & ARKANSAS has ordered 2,400 tons of structural steel for a bridge at Bonnet Carre, La., from the Bethlehem Steel Company.

THE ILLINOIS CENTRAL has ordered 900 tons of structural steel for a bridge at Big Clifty, Ky., from the McClintic Marshall Corporation.

THE MISSOURI PACIFIC has ordered 210 tons of structural steel for a bridge at Selkirk, Kan., from the Virginia Bridge & Iron Co.

THE NEW YORK CENTRAL will receive bids on February 28 for its 1934 requirements of rail estimated to be about 40,000 tons.

THE ATLANTIC COAST LINE has placed an order for 5,000 tons of rail with the Tennessee Coal, Iron & Railroad Company, to be delivered during the first half of 1934.

MISCELLANEOUS

Pennsylvania Orders Material for Roadway Electrification Work

The orders placed by the Pennsylvania on February 13 were for approximately 15,000 tons of steel and more than a million pounds of copper wire and cable to be used in its roadway electrification work

now under way between New York, Philadelphia, Pa., and Washington, D. C. These orders followed the start of actual construction on the road's \$77,000,000 improvement and employment program, financed by the Public Works Administration.

Fabrication of the steel, involving an expenditure of nearly \$1,000,000, was divided among the following firms: American Bridge Company, Pittsburgh, Pa.; Fort Pitt Bridge Works, Pittsburgh; Ingalls Iron Works Company, Verona, Pa.; McClintic-Marshall Company, Pottstown, Pa., and Shoemaker Bridge Company, Pottstown. The steel will be used in the overhead supports for the catenary wire system which feeds the trains and also in sub-station construction.

The copper wire and cable orders were divided among the following firms: Phelps Dodge Copper Products Corporation, Bayway, N. J.; J. A. Roebling's Sons Company, Trenton and Roebling, N. J.; General Cable Corporation, Perth Amboy, N. J.; Anaconda Wire & Cable Company, Ansonia and Waterbury, Conn.; American Electrical Works, Phillipsdale, R. I., and Graybar Electric Company, Worcester, Mass.

In the *Railway Age* of February 17, page 274, reference was made to the above orders in the item "Pennsylvania Places \$3,000,000 Order for Steel Products."

Supply Trade

W. P. Greenawalt has joined the staff of the Ingot Iron Railway Products Company, and will be attached to its Chicago office.

Howard C. Mull, vice-president of the Warren Tool Corporation, Warren, Ohio, has been made chairman of the Transportation and Traffic Committee of the Warren, Ohio, Chamber of Commerce.

I. B. Tanner, president, G. T. Willard, vice-president, and F. M. Condit, secretary, of the International Rail Welding Corporation, Chicago, have resigned and S. E. Purdy, chairman of the board, has been appointed acting president. The Tanner-Willard Company, St. Louis, Mo., has been organized by Mr. Tanner and Mr. Willard to design and construct railroad water service and treating plants, contract for the renewing of rail ends by the direct current arc-welding method and act as manufacturers' agents of maintenance of railway equipment and materials.

The subsidiary manufacturing companies of the United States Steel Corporation have organized and established a Railroad Research Bureau to engage in developmental work for the benefit of the railroad industry and its suppliers. John A. Ralston is manager of the bureau, which has its headquarters in the Frick building annex, Pittsburgh, Pa. Engineering and experimental work of this department will be closely co-ordinated with the activities of the subsidiary manufacturing companies in the interest of rendering service to all who are concerned with the application of

Continued on next left-hand page



AMERICAN LOCOMOTIVE COMPANY

During all this discussion about speed and what it is going to do for passenger traffic, it might not be amiss to consider for a moment the main meal ticket of our railroads—their freight transportation.

First, just to get an idea of the relative importance of these two services, let us compare the operating receipts for the years 1930 and 1932.

	1930	1932
Freight.....	\$4,083,241,558	\$2,450,829,130
Passenger.....	729,471,420	377,095,346

Now, let us quote from the December 23rd and January 6th issues of the *Railway Age*.—"Such fast merchandise freight service is necessary. It is necessary because fast service over substantial distances is being given by the highway competition of the railways. It is necessary be-

cause shippers are demanding speed in freight deliveries and are able to get it from truck transportation if they cannot from railway transportation. Speed, definitely, is what shippers want."

"High-speed merchandise freight trains are a necessary part of any railroad's program of freight traffic development. They meet a modern need in freight transportation, and they have aided and will continue to aid in the replacement upon the rails of much traffic which has been won away by trucks."

So during all this talk of putting "wings on wheels," do not overlook the possibilities of regaining much freight transportation revenue with modern high-speed freight locomotives.

The opportunity seems to exist.

30 CHURCH STREET • NEW YORK • N.Y.

We are prepared to submit streamlined designs, steam or diesel powered as desired, to meet any or every demand of our railroads.

rolled steel products to the construction of railroad equipment. A series of high tensile steels are being produced and offered to the trade by the companies co-operating in and with the Railroad Research Bureau. Grades and products suitable for a variety of requirements are available for the execution of new designs, which have as their purpose a reduction in weight without attendant sacrifice of strength.

Baldwin Locomotive Works Annual Report for 1933

The Baldwin Locomotive Works, for the year ending December 31, 1933, reported a consolidated net loss of \$3,857,744 after a \$1,848,478 provision for depreciation, interest charges of \$1,138,823 and adjustments for the equity of minority stockholders in the net profit of the Midvale Company and in the loss of the Whitcomb Locomotive Company. This 1933 deficit represents a reduction of \$220,338 as compared with the 1932 consolidated loss of \$4,078,132, in spite of the fact that the consolidated sales last year totaled only \$8,250,319 as compared with 1932 sales of \$10,596,859.

The 1933 sales of locomotive products were down to \$1,037,104 as compared with a 1932 figure of \$3,034,694; last year's business outside of the locomotive field thus amounted to 87 per cent of the total volume as compared with 71 per cent in 1932. The report points out in this connection however that "The prospect for locomotive business is better than it has been for some years. The number of locomotives in use has been steadily decreasing by continued junking of obsolete equipment, while car-loadings are increasing, the result being that the margin of surplus motive power is diminishing. Some railroads are availing themselves of the opportunity offered by the Public Works Administration to finance the purchase of railroad equipment through the sale of equipment trust certificates to the government. It is expected that this plan will afford some additional business to the railroad equipment companies, of which your company should obtain a part."

The balance sheet as of December 31 lists total current assets of \$14,711,250, including \$7,649,177 in cash, as against total current liabilities of \$1,213,211. During 1933 the company successfully consummated its plan for meeting the March 1 maturity of its three-year gold notes in the amount of \$12,000,000. These notes were exchanged for an equal principal amount of five-year consolidated mortgage bonds, 99.18 per cent of the outstanding notes being deposited under the plan. From the time the plan was declared operative to December 31 subscription warrants for 211,800 shares of the common stock involved in the refunding arrangement had been exercised, practically all of these shares being paid for with the consolidated bonds. Thus a reduction of \$1,055,600 in bonded debt resulted.

The Board of Directors at a meeting on January 25, 1934, having decided that certain items of property, plant and equipment, and of investments should be adjusted, adopted resolutions for submitting to the stockholders, at the annual meeting on March 1, a plan for a reduction in the

stated value of the company's capital stock. The resolution contemplates that the stated value of the 200,000 shares of 7 per cent preferred stock would remain the same at \$20,000,000 but that of the common stock would be reduced by \$1,586,000 or from \$22,134,000 to \$10,548,000. This adjustment would set up the \$11,586,000 reduction as an increase in capital surplus, from which the Board plans initially to create a reserve of \$8,000,000 to be used in effecting the proposed adjustments.

The consolidated statements of profit and loss and surplus for the year ending December 31, 1933 follow:

CONSOLIDATED STATEMENT OF PROFIT AND LOSS	
Sales	\$8,250,319
Less:	
Cost of Sales, including Selling, Administra- tive and General Ex- penses	\$9,528,583
Provision for Deprecia- tion	1,848,478
	11,377,061
Operating Loss	\$3,126,742
Other Income:	
Dividends	\$28,766
Interest and Miscellane- ous	715,034
	743,800
Operating Loss less Other In- come	\$2,382,942
Other Expenses:	
Interest	\$1,138,823
Miscellaneous	330,608
	1,469,432
Loss for the Year	\$3,852,374
Equity of Minority Stockholders in the net profit of The Midvale Company and in the loss of The Whitcomb Locomotive Company	5,369
Loss accrued to The Baldwin Locomotive Works	\$3,857,744
CONSOLIDATED STATEMENT OF SURPLUS	
Surplus at January 1, 1933:	
Earned Surplus	\$6,173,287
Capital Surplus	6,938,768
	\$13,112,055
Deduct:	
Loss for the year 1933, as above	\$3,857,744
Sundry Deductions	3,579
	3,861,323
Surplus at December 31, 1933	\$9,250,732
consisting of Earned Surplus	\$2,311,964
and Capital Sur- plus	6,938,768

Car Builders' Code Signed

President Roosevelt on February 17 signed the code for the railway car building industry, following a hearing and subsequent conferences with the National Recovery Administration, to become effective on February 21. It provides for a 40-hour week of five eight-hour days and minimum wages ranging from 32 to 40 cents an hour for unskilled labor, while those of office employees are to range from \$14 to \$15 a week. The 32-cent minimum is to apply in the southern states, the 35-cent minimum at plants in the vicinity of Berwick and Milton, Pa., and St. Charles, Mo., and the 37-cent minimum in the vicinity of Bettendorf, Ia., Huntington, W. Va., Jeffersonville and Terre Haute, Ind., Johnstown, Pa., Madison and Mt. Vernon, Ill., and Richmond and Roanoke, Va. A statement issued by the N.R.A. in connection with the code said that the number of employees in the industry had been reduced from 46,119 in 1929 to 16,508 in 1933 and that it was expected the code provisions would restore the employment to pre-depression levels and possibly beyond. The basic wage rates of factory workers

will be increased 35 per cent and the total payroll of the industry by 29 per cent over the 1929 figures, it was estimated.

Codes for the railway car appliance and gray iron castings industries were signed on February 10.

OBITUARY

Arthur S. Lewis, district sales manager of the Barco Manufacturing Company, Chicago, with headquarters at New York, died at St. Petersburg, Fla., on February 10.

James McLaughlin, district manager of the Franklin Railway Supply Company, Inc., with headquarters at San Francisco, Cal., died in the French hospital, San Francisco, on February 7, after a short illness. Mr. McLaughlin had served in the supply business in the East with the American



James McLaughlin

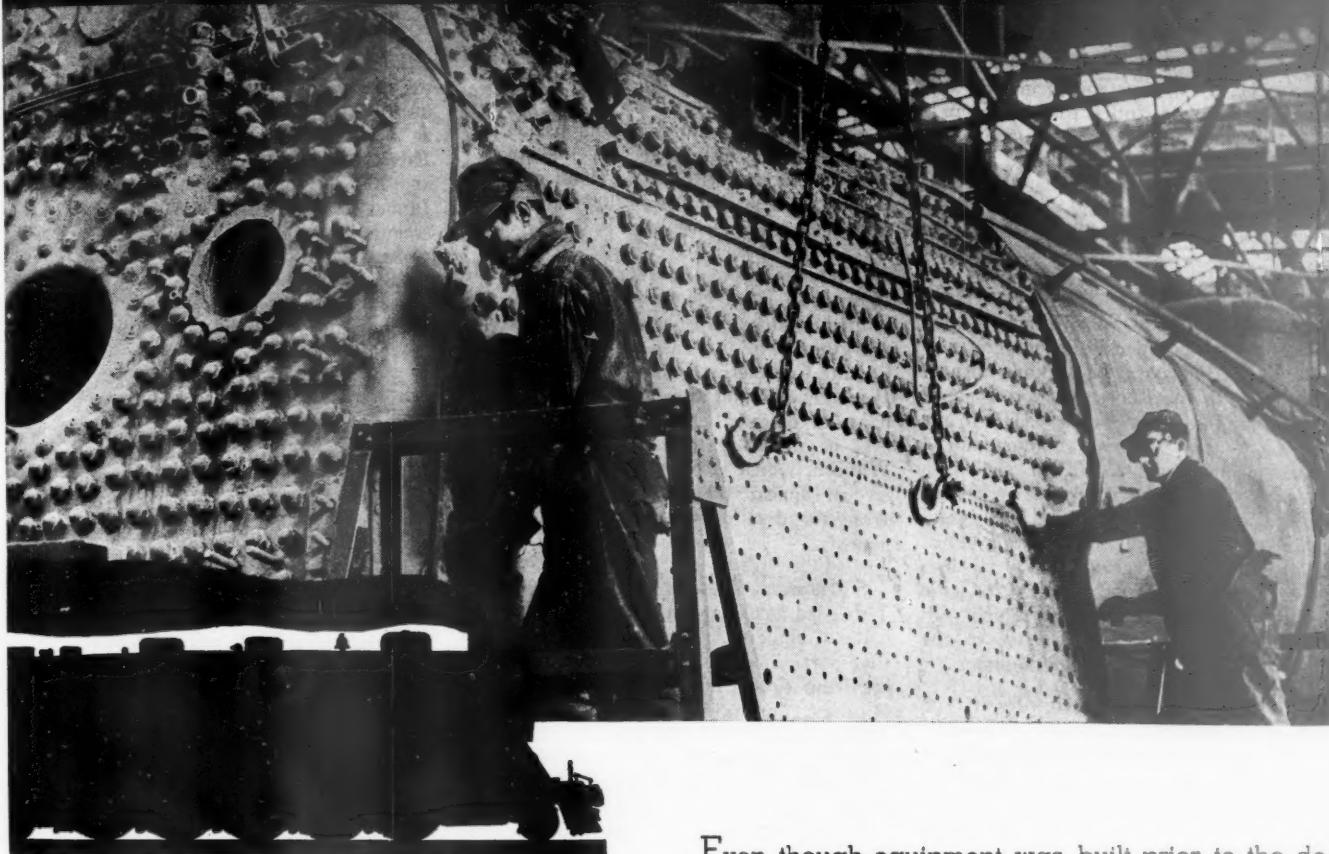
Locomotive Company for about three years previous to 1913, when he entered the service of the Franklin Railway Supply Company and had taken an active part in the affairs of the A. R. A., Mechanical Division. On April 1, 1921, he was appointed district manager of the Franklin Railway Supply Company, Inc., assigned to the Pacific Coast territory, with headquarters at San Francisco; since that time he had been in the service of the company, at the same location.

RECOMMENDATIONS of the recent conference at Ottawa when Hon. Dr. R. J. Manion, Canadian Minister of Railways, met provincial representatives and it was decided that there must be more equitable competition as between railways and trucks and buses, greater protection for the public, and that those who operate for hire on the public highways should pay more for highway maintenance, are embodied in the measure of Hon. R. F. Stockwell, Provincial Treasurer of Quebec, which was distributed in the Legislature in Quebec City last week.

Under the measure the Provincial Cabinet is given much the same regulatory authority over bus and truck operations as is vested in the Dominion Board of Railway Commissioners with respect to railways. It may fix tariffs, and generally regulate motor carrier services.

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REPAIR MATERIALS SHOULD BE UP-TO-DATE



Even though equipment was built prior to the de-

velopment of modern alloys, don't deny it the advantages of modern materials when it comes in for repairs.

*** Regardless of locomotive age, Agathon staybolts will give superior service due to higher strength

and greater fatigue resistance. *** Alloy firebox sheets will resist fire-cracking and last longer in the

firebox. Agathon Nickel Iron combines a hard surface with a tough core to increase the life of wearing parts.

*** Scores of special alloy steels and irons are available that will lower future

maintenance. *** Use them and spend your maintenance money most effectively.

CENTRAL ALLOY DIVISION, MASSILLON, OHIO

Toncan Iron Boiler Tubes, Pipe, Plates, Cul-
verts, Rivets, Tender Plates and Firebox
Sheets • Sheets and Strips for special rail-
road purposes • Agathon Alloy Steels for
Locomotive Parts • Agathon Engine Bolt
Steel • Agathon Iron for pins and bushings
• Agathon Staybolt Iron • Climax Steel
Staybolts • Upson Bolts and Nuts • Track
Material, Maney Guard Rail Assemblies •
Enduro Stainless Steel for dining car equip-
ment, for refrigeration cars and for firebox
sheets • Agathon Nickel Forging Steel.



REPUBLIC STEEL
CORPORATION
GENERAL OFFICES — YOUNGSTOWN, OHIO



Financial

GENESEE & WYOMING.—*Abandonment of Operation.*—See Halite & Northern.

HALITE & NORTHERN.—*Abandonment.*—The Interstate Commerce Commission has authorized this road to abandon as to interstate and foreign commerce its entire line which extends from Halite, N. Y., to Cloverdale, 3.197 miles. The same order permits the Genesee & Wyoming to abandon operation of the line. The report finds that the H. & N., constructed in 1911 and 1912 to furnish an outlet for salt from a mine at Halite, has served its purpose, the salt mine having been abandoned in August, 1930. Traffic since that time has consisted mainly of material salvaged from the plant of the salt company.

KANSAS CITY, MEMPHIS & BIRMINGHAM.—*Redemption of Mortgage.*—Trustees of the St. Louis-San Francisco filed a petition in the federal district court at St. Louis on February 19, seeking authority to apply to the Reconstruction Finance Corporation for a loan of \$6,905,000 to redeem \$3,323,000 of general mortgage 4 per cent bonds and \$3,582,000 income 5 per cent bonds of the Kansas City, Memphis & Birmingham, both of which issues mature March 1, 1935. The petition stated that if the loan be granted, the trustees will ask authority of the court to issue trustees certificates as security which will be a direct lien on the properties of the Kansas City, Memphis & Birmingham.

LEHIGH & NEW ENGLAND.—*P. W. A. Loan.*—The Interstate Commerce Commission has approved the proposed expenditure of \$1,212,000 to be borrowed from the Public Works Administration for the acquisition of 250 box cars, 150 hopper cars and 100 gondola cars.

LEHIGH VALLEY.—*Release of Collateral Pledged with R. F. C.*—The Interstate Commerce Commission has approved the relief of this company from the requirement that its share of the fund administered by the Railroad Credit Corporation under the Marshaling and Distributing Plan, 1931, be pledged among other collateral as security for R. F. C. loans. The commission had approved three R. F. C. loans totaling \$6,500,000 for the Lehigh, but only \$5,500,000 has been advanced to the company. Meanwhile the R. F. C. canceled its approval of the additional million, and the present order of the commission also cancels the I. C. C. approval of that amount, finding, among other reasons such as the rise in market value of remaining collateral, that with the total loan thus reduced, the pledge of the Lehigh's share in the R. F. C. fund is no longer necessary. The collateral released will be used in part as security for a Public Works Administration loan.

NEW YORK CENTRAL.—*R.F.C. Loan.*—Jesse H. Jones, chairman of the Reconstruction Finance Corporation, has announced that it has agreed to loan to this company not to exceed \$20,000,000 for three years toward meeting its May 1 bond ma-

turities. The company's requirements are said to be about \$60,000,000 and the commitment of the R.F.C. is conditioned on the company's making arrangements with its bankers and others to underwrite the remaining \$40,000,000, he said. The company proposes to issue \$60,000,000 of 10-year 6 per cent convertible bonds.

NEW YORK, CHICAGO & ST. LOUIS.—*P. W. A. Loan.*—The Interstate Commerce Commission has approved the proposed expenditure of \$5,028,208, the proceeds of a loan allotted by the Public Works Administration, for new equipment.

NEZPERCE & IDAHO.—*P. W. A. Loan.*—The Interstate Commerce Commission has approved the proposed expenditure of \$6,400, the proceeds of a Public Works Administration loan, for the replacement of ties and bridge timbers.

PENNSYLVANIA.—*Anti-Trust Case To Be Rargued.*—The Supreme Court of the United States on February 19 ordered a reargument in the case in which the Interstate Commerce Commission ordered the Pennsylvania and the Pennsylvania Company to divest themselves of their interests in stock of the Lehigh Valley and Wabash, which is before the highest court on an appeal taken by the government from the decision of the circuit court of appeals.

SOUTHERN PACIFIC.—*Abandonment.*—This road has been authorized by the Interstate Commerce Commission to abandon that portion of its Rumsey branch extending from a point near Capay to a point near Rumsey, approximately 18 miles, all in Yolo County, Calif. In granting the application the commission notes that the Southern Pacific's highway subsidiary has applied to the Railroad Commission of California for a certificate under which it proposes to provide motor truck service to the communities formerly served by the abandoned section of the branch.

TEXARKANA & FORT SMITH.—*Leased to K. C. S.*—The Kansas City Southern, on February 1, took over the property and operation of the Texarkana & Fort Smith under lease. The property will be operated in the name of and as part of the Kansas City Southern. The jurisdiction of all general officers and officers of the Southern division of the Kansas City Southern has been extended over the Texarkana & Fort Smith.

Average Prices of Stocks and of Bonds

	Last Feb. 20	Last week	Last year
Average price of 20 representative railway stocks..	49.00	47.69	24.07
Average price of 20 representative railway bonds..	78.30	76.65	55.99

Dividends Declared

Chestnut Hill.—75 cents, quarterly, payable March 5 to holders of record February 20.

Delaware & Bound Brook.—\$2.00, quarterly, payable February 20 to holders of record February 13.

Hartford & Connecticut Western.—Preferred, \$1.00, semi-annually, payable February 28 to holders of record February 20.

Lackawanna R. R. of N. J.—4 Per Cent Preferred, \$1.00, quarterly, payable April 2 to holders of record March 8.

North Pennsylvania.—\$1.00, quarterly, payable February 24 to holders of record February 19.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

R. E. Suffolk has been elected treasurer of the Litchfield & Madison, with headquarters at Edwardsville, Ill., succeeding D. H. Bener, resigned.

L. A. Behler, assistant general auditor of the Northern Pacific, has been promoted to general auditor, with headquarters as before at St. Paul, Minn., succeeding Edwin T. Dakin, whose death on January 13 was noted in the *Railway Age* for January 27. W. C. Pinger, a general accountant, has been promoted to assistant general auditor to succeed Mr. Behler. C. S. Carter, auditor of joint facility accounts, has been promoted to general accountant to succeed Mr. Pinger.

OPERATING

Roger T. Lively, assistant superintendent of the Pullman Company, with headquarters at Atlanta, Ga., has been appointed district superintendent of the Atlanta district, with the same headquarters, effective February 1.

G. M. Cordingley, assistant superintendent on the Lethbridge division of the Canadian National, with headquarters at Lethbridge, Alta., has been transferred to MacLeod, Alta., on the same division to succeed E. McCracken, who in turn has been transferred to Lethbridge to succeed Mr. Cordingley.

TRAFFIC

J. O. Hamilton, general freight agent on the Kansas City Southern at Texarkana, Tex., has been appointed to the newly-created position of assistant general freight and passenger agent at Shreveport, La.

OBITUARY

Eugene F. Bowman, general agent, passenger department, for the Chicago, Milwaukee, St. Paul & Pacific at St. Paul, Minn., died on February 9 at St. Paul following a brief illness.

Timothy B. O'Leary, trainmaster on the Boston & Albany, with headquarters at Worcester, Mass., died in that city on February 16 of pneumonia. Mr. O'Leary was 49 years of age.

Joseph R. Cameron, who retired in 1929 as assistant general manager, Western Region, of the Canadian National at Vancouver, B. C., died on February 9 at Vancouver.

Timothy D. Murphy, for many years trainmaster of the River division of the West Shore (part of the New York Central Lines) at Weehawken, N. J., died on February 19 in Weehawken, at the age of 80 years. Mr. Murphy was pensioned on February 1, 1924.

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